

MBF 4651

FOCUSED ENVIRONMENTAL ASSESSMENT  
OF THE  
INTEGRATED SPECIALTIES, INC. SITE

Prepared for

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BCLA Project Number 88-524

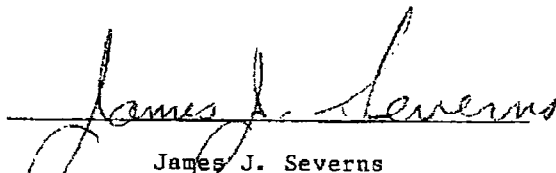
August 1988

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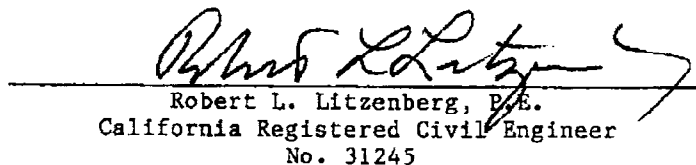
The information contained in this report has received appropriate technical review and approval. The conclusions and recommendations presented represent professional judgments and are based upon the findings from the investigation identified in the report and the interpretation of such data based on our experience and background. This acknowledgement is made in lieu of all warranties, either expressed or implied.

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## 1.0 INTRODUCTION

### 1.1 Project Objectives

The objective of this project was to provide an indication of whether significant levels of chemical contamination exist in the soils underlying the Integrated Specialties, Inc. site. This evaluation was based upon the analysis of soil samples collected from areas of concern previously identified at the subject site.

### 1.2 Project Location and Surrounding Land Use

The Integrated Specialties, Inc. site is located at 1551 East Orangethorpe in Fullerton, California. Figure 1 shows the location. The 116,000 square foot Integrated Specialties, Inc. building is located in a manufacturing center. The surrounding land use is manufacturing and office space.

### 1.3 Background

On October 22, 1986, BCLA performed an inspection of the Integrated Specialties, Inc. site. Integrated Specialties is a division of Allegheny International. Mr. Don Farmer of Integrated Specialties, Inc. and Mr. David Mitchell of McLachlan Investment Company accompanied BCLA on the inspection.

Based upon a review of the Engineer's Report on Groundwater Conditions, the groundwater level at the site location was determined to be 50 to 70 feet below ground surface. See Appendix A for the Groundwater Contour Maps consulted.

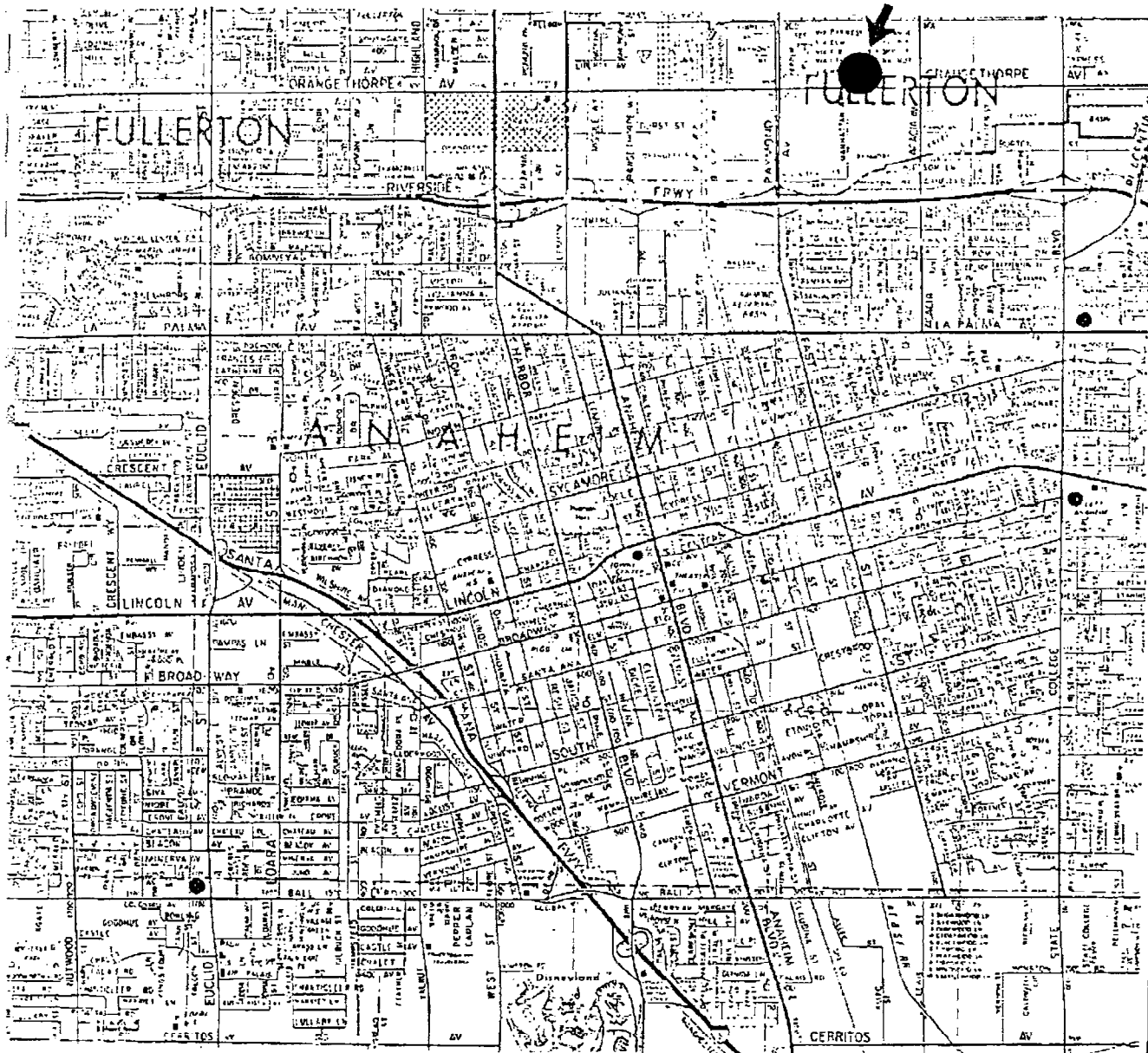
At the time of the inspection the plant was inactive. Virtually all of the process equipment had been removed from the facility. Mr. Farmer reported that the equipment had been previously sold at an auction. Mr. Farmer's crew was in the process of cleaning the interior of the building. It was reported that Integrated Specialties was responsible for cleaning the entire facility prior to leaving the site.

Mr. Farmer reported that Integrated Specialties, Inc. had been on the site since 1956. Prior to that, Ensign Carburetor operated a carburetor repair and rebuilding operation on the site. Mr. Farmer indicated that the Integrated Specialties, Inc. lot has been paved since 1956.

Mr. Farmer stated that Integrated Specialties, Inc. did chemical milling, etching and plating of steel parts using ferric chloride. It was reported that as part of this operation industrial wastewater containing iron, nickel and copper was generated and discharged to the industrial sewer lines. Mr. Farmer reported that during their entire operating period, Integrated Specialties, Inc. received only one notice of violation from the local Sanitation District. That violation was related to excessive nickel in the wastewater.

At the time of the 1986 inspection, the plant had 5 industrial wastewater clarifiers, 2 outside the building on the east side, 1 in the etch room, 1 in the drag-out room and 1 near the 1,1,1-Trichloroethane degreasing tank near the center of the building. There is one common sampling point downstream of the clarifiers near the northeast corner of the building. The industrial sewer for the facility runs in a north to south direction under the parking lot on the east side of the building.

PROJECT LOCATION



SCALE 1"=2860'

**BCL**

Source:  
THOMAS BROTHERS

Title:  
SITE LOCATION MAP

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At the time of BCLA's 1986 inspection, the filter press area and above ground raw chemical storage tank area near the northeast corner of the property had reddish-brown staining on the surface of the pavement. The staining was reported by Mr. Farmer to be residual ferric chloride. Some brown staining was also observed around the stormwater catch basin near the filter press.

As part of the cleaning, etching, plating and milling operation parts were exposed to hydrochloric and nitric acids, sodium hydroxide and ferric chloride. These operations primarily occurred on the east side of the building. The operations occurred on a bermed concrete slab with a raised wooden grate floor. The concrete slab had a layer of reddish-brown powder at the time of the inspection. Some corrosion of the concrete was observed. Mr. Farmer reported that the pH of the liquids used in these areas was kept between 7-1/2 and 8. Mr. Farmer also said that the concrete slabs would be thoroughly cleaned prior to Integrated Specialties leaving the site.

The facility had two 1,1,1-Trichloroethane cleaning tanks, one at the north end and one near the center of the building. The cleaning fluids were held in steel tanks set in concrete sumps. Any fluids which leaked from the steel tank would drain into the sump. Mr. Farmer indicated that he was not aware of any 1,1,1-Trichloroethane leaks, although on occasion water from nearby processes had overflowed into the sumps. Visual inspection of the concrete sumps did not identify any obvious leak points in the sump walls.

Outside the building on the west side was an eight foot deep concrete sump for a previously removed cooling water system. Mr. Farmer indicated that Phosglass 504, which is manufactured by Water Chemists, Inc. in Los Angeles, was added to the water to prevent the growth of algae and control scale.

Three large transformers mounted on a concrete slab were observed near the northwest corner of the building. Mr. Farmer reported that these transformers were owned and maintained by the local electrical utility. No evidence of leakage was noted around the transformers.

This inspection was incorporated in a Preliminary Environmental Audit prepared for the facility in 1986 by BCLA.

## 2.0 FIELD INVESTIGATION

The Preliminary Audit identified areas of potential environmental liability based on file searches and on one site inspection. No documented areas of soil contamination were identified during the preliminary audit process. However, the following five areas were identified as having a potential for soil contamination were identified:

- ° Industrial Wastewater Clarifiers
- ° 1,1,1-Trichloroethane Tanks
- ° Cooling Water Sump
- ° Bermed Concrete Pad
- ° Electrical Transformer Pad

On January 25 and 26, 1988, BCL Associates, Inc. (BCLA) conducted a soils investigation at the site formerly occupied by Integrated Specialties, Inc. focused on the areas of concern. Soil samples were collected from 15 hand auger borings, in addition to 2 surface grab samples. A total of 57 samples were collected. Figure 2 shows the boring and grab sample locations. In addition to these areas, a surface grab sample was obtained from soil accumulated in a ditch which transports runoff water from the east side of the property to a storm drain inlet.

The samples were visually inspected and logged in the field by a qualified geologist. The samples were also screened by field instruments using the headspace method. The instruments used for this screening were a portable flame ionization detector (FID) and photo ionization detector (PID). Total petroleum hydrocarbons (TPH) were determined by analyzing samples with a Miran Infrared Spectrometer (IR) using the modified EPA method 418.1. Appendix B includes copies of the boring logs which list the lithologic descriptions, as well as field PID, FID and IR readings.

Table 1 shows the Areas of Concern; Boring Numbers within these areas; Sample Numbers; Depth of Sample Collection; PID, FID and IR Readings; and Initial Laboratory Analysis requested adjacent to the samples analyzed.

A hand auger was used to collect the soil samples from the boring locations. Considerable difficulty maintaining an open borehole was encountered in several of the borings. The site is underlain predominantly by sand. This sand has poor cohesive properties. The boreholes therefore exhibited a tendency to collapse during sampling operations.

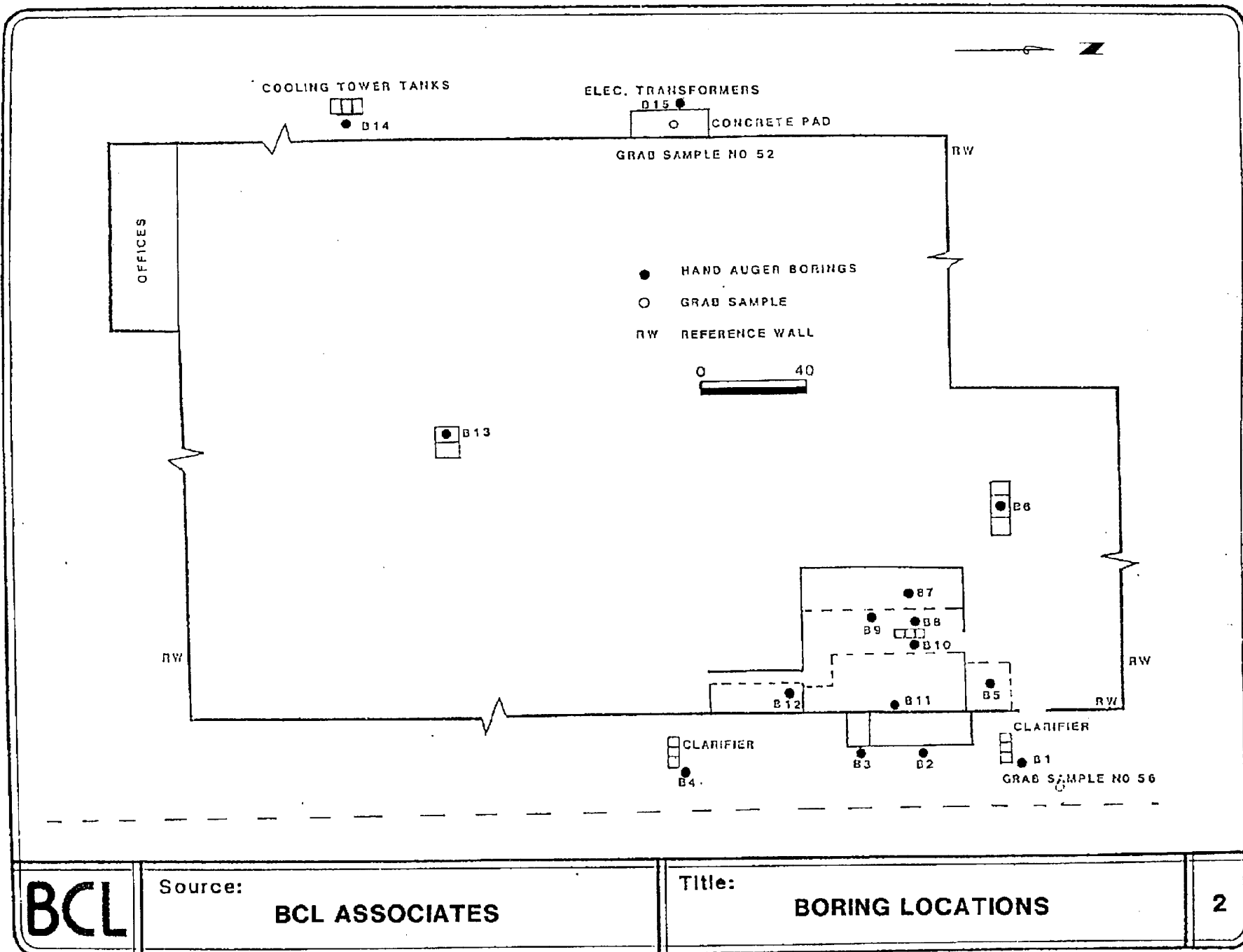
The samples were collected in stainless steel sleeves and in 250 ml glass jars. The sleeve samples were immediately sealed and labeled upon collection. The samples were then transferred to an insulated chest, cooled with dry ice and delivered to the selected laboratory the same day. The portion of the sample collected in the 250 ml glass jar was subjected to field headspace analysis using a PID and FID. A portion of each sample was analyzed in the field for TPH using the IR.

A description of the field activities undertaken at each area of concern is given below. See Figure 2 for boring locations.

#### Industrial Wastewater Clarifiers

A total of 4 shallow borings (B-1 through B-4) were drilled at these locations. The subsurface soils were visually clean and consisted of olive-brown silty sand. Field headspace analysis readings of the samples from these borings using the PID did not exceed 30 ppm. The FID readings did not exceed 80 ppm. Field IR analysis results for TPH did not exceed 93 ppm.





**BCL**

Source: **BCL ASSOCIATES**

Title: **BORING LOCATIONS**

TABLE 1  
Sample Identification  
and Field Analytical Readings

AREA OF CONCERN	BORING NUMBER	SAMPLE NUMBER	DEPTH*	FIELD ANALYTICAL READINGS (in ppm)			LABORATORY ANALYSIS REQUESTED
				PID	FID	IR	
Clarifier	B-1	1	5	5	25	24	17 TTLC, pH
		2	18	15	30	7	
		3	30	9	30	14	
Containment Area	B-2	4	6	8	25	7	17 TTLC, pH
		5	18	24	30	14	
		6	30	20	48	14	
		13	42	19	12	7	
Containment Area	B-3	7	6	20	28	21	17 TTLC, pH
		8	18	18	24	<7	
		9	30	24	28	<7	
		14	42	15	20	<7	
Clarifier	B-4	10	10	30	50	93	17 TTLC, pH
		11	22	30	60	7	
		12	32	22	32	<7	
		15	45	6	19	7	
Bermed Concrete Pad	B-5	16	8	13	200	57	17 TTLC, pH
		17	20	16	190	14	
		18	32	23	80	7	
	B-7	22	6	12	22	<7	17 TTLC, pH
		23	18	32	75	<7	
		24	30	62	70	<7	
	B-8	25	5	12	40	7	17 TTLC, pH
		26	17	16	60	7	
		27	29	28	30	445	
		57	41	120	200	<7	
	B-9	28	4	24	50	<7	17 TTLC, pH
		29	16	58	30	<7	
		30	28	32	100	<7	
	B-10	31	4	25	80	7	17 TTLC, pH
		32	16	12	40	<7	
		33	28	40	80	<7	
	B-11	34	12	25	40	<7	17 TTLC, pH
		35	24	30	80	<7	
		36	36	60	150	7	
	B-12	37	12	15	40	<7	17 TTLC, pH
		38	24	20	60	<7	
		39	36	30	80	<7	

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TABLE 1  
Sample Identification  
and Field Analytical Readings

AREA OF CONCERN	BORING NUMBER	SAMPLE NUMBER	DEPTH*	FIELD ANALYTICAL READINGS (in ppm)			LABORATORY ANALYSIS REQUESTED
				PID	FID	IR	
1,1,1-Trichloro- ethane tanks	B-6	19	6	142	280	150	VOA (8240)
		20	18	154	190	143	
		21	30	15	70	71	
	B-13	40	6	15	30	14	VOA (8240)
		41	18	35	70	85	
		42	30	30	50	14	
Cooling Water Sump	B-14	43	4	600	2000	785	17 TTLC, pH VOA (8240)
		44	1 ft	90	70	<7	
		45	2 ft	110	150	14	
		46	3 ft	100	70	<7	
		47	4 ft	25	20	<7	
		48	5 ft	15	20	14	
		49	6 ft	20	15	<7	
		50	7 ft	25	25	<7	
		51	8 ft	40	60	<7	
Electric Transformer Pad	B-15	53	0	10	15	110	PCB (8080)
		54	12	5	12	14	
		55	24	5	12	<7	
	Grab Sample	52	0	1	20	1270	PCB (8080)
Run-off Ditch	Grab Sample	56	0	5	12	2230	

\* - Depth in inches unless otherwise indicated

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## 1,1,1-Trichloroethane Tanks

### Northern Tank (Concrete Pit)

Boring B-6 was advanced to a total depth of 30 inches below the concrete pit. The bottom of the pit is about 3 feet below ground surface. The concrete floor of the pit is 6 inches thick and in good condition with no apparent cracks.

Soils below the concrete pad consist mostly of silty clayey sand and fine sand, olive-brown in color. No visible staining was observed in the collected soils.

High PID, FID and IR readings were detected in this boring. Sample number 19, which was collected directly below the concrete slab at 6 inches below ground surface (BCS) showed field instrument readings of 142 ppm on the PID, 280 ppm on the FID and 150 ppm of TPH on the IR.

### Center Tank (Concrete Pit)

One soil boring (B-13) was drilled at this location to a total depth of 31 inches below the top of the concrete floor of the pit. Soil samples were collected directly below the concrete slab and at approximately 12-inch intervals thereafter. The concrete floor in the pit was 12 inches thick and in good condition with no apparent cracks.

Soils below the concrete slab at this location consist of fine to coarse loose sand, olive-brown to pale yellow in color. This sand probably was imported as fill material during construction of the concrete pit. No visible staining was observed.

Peak field instrument readings for this area were 35 ppm on the PID, 70 ppm of the FID and 85 ppm on the IR.

### Cooling Water Sump

One soil boring (B-14) was placed at this location to a depth of 8 feet below ground surface. Soil samples were collected immediately below the concrete slab and at 1-foot intervals thereafter. The concrete slab was in good condition with no evidence of cracking or corrosion.

Soils below the concrete slab predominately consisted of olive-brown silty sand. No visible contamination or soil discoloration was observed at the boring location.

Sample number 43 was collected at 4 inches below the top of the concrete slab. This sample exhibited field instrument readings of 600 ppm (PID), 2000 ppm (FID) and 785 ppm TPH (IR). The balance of the samples from this boring showed considerably lower readings for the remainder of the samples from this boring did not exceed 110 ppm (PID), 150 ppm (FID) and 14 ppm TPH.

#### Bermed Concrete Pad

Within this area, 7 borings (B-5 and B-7 through B-12) were placed. The underlying soils were comprised of silty-clayey olive sand of varying grades from fine to medium.

The concrete slab in this area varied from 3 to 8 inches in thickness. The surficial concrete was corroded in the areas of borings 5, 8, 9, 10, 11 and 12. No cracks in the concrete were observed.

PID readings in this area were below 60 ppm, except in sample number 57, which had a PID level at 120 ppm. This sample also had the highest FID level in this area, being 200 ppm. TPH levels did not exceed 57 ppm, except in sample number 27 which had a level of 445 ppm. Both of these samples were obtained from boring B-8, which could not be advanced deeper due to extensive caving of the surrounding sand.

#### Runoff Ditch

This ditch collects water runoff from the parking areas along the east side of the building. Sample number 56 was obtained from accumulated soil in the ditch near the Storm Drain Inlet situated near the northeast end of the property. The PID reading for Sample Number 56 was 5 ppm, the FID reading was 12 ppm. The TPH level was 2230 ppm.

#### Electrical Transformer Pad

One surface grab sample (sample number 52) was collected from oil stained sandy soil that had accumulated on the surface of the Electrical Transformer Pad. This sample exhibited PID readings of 1 ppm, FID readings of 20 ppm and TPH concentration of 1270 ppm.

Boring B-15 was placed in an area where possible leakage from the Electrical Transformers would have come in contact with the soil. This area was selected by pouring a small amount of clean water on the pad at the point where the transformer was mounted. The sample collection point was defined at the point where the water reached the soil. Presumably, any liquid released by a transformer could follow the same path. Surficial soils at the boring location and around the pad did not exhibit any visible evidence of staining. Soils from the boring were olive-brown silty sand, with no visible staining. Field instrument readings from this boring did not exceed 10 ppm (PID), 15 ppm (FID) and 110 ppm TPH.

### 3.0 CHEMICAL ANALYSIS

Samples were selected for analysis based on review of the boring logs. Table 1 shows the borings segregated by area of concern, the samples collected at each boring, the depth of sample collection below ground surface, field instrument readings and the preliminary laboratory analyses performed on the selected samples.

Appendix C contains copies of the laboratory analytical reports.

### Metals Analysis

Table 2 shows the results of the Total Threshold Limit Concentration (TTLC) analyses. None of the samples analyzed exceeded the TTLC values in Title 22, Division 4, Chapter 30, Article 11 (Title 22), Section 66699.

Table 3 focuses on those samples whose TTLC concentration equaled or exceeded Section 66699 STLC values. These samples were analyzed for soluble metals by the Waste Extraction Test (WET) in accordance with Section 66700. Table 4 shows the result of these analyses. None of the samples analyzed for soluble metals exceeded the Soluble Threshold Limit (STLC) values.

### pH Determination

Table 5 shows the pH levels of the samples selected for analysis. Refer to Table 1 for sample depth and boring position. Sample 7 from Boring B-3 had the highest pH (11.4) of all the samples analyzed. This is below the corrosivity hazard determination of 12.5 set forth in Title 22 §66708.

### Volatile Organic Analysis

Table 6 shows the Volatile Organic compound concentrations found in the analyzed soil samples in conjunction with the Drinking Water Standards and the Recommended Soil Cleanup Levels (RSCL's), discussed below.

### Polychlorinated Biphenyls (PCB's)

Two samples from the Electrical Transformer Pad area were analyzed for PCB's by EPA method 8080. PCB's were found in both samples.

<u>Sample</u>	<u>PCB Concentration</u>	<u>Location</u>
52	4.4 ppm	Surface of Transformer Pad
53	0.22 ppm	Boring B-15-Groundsurface

## 4.0 FINDINGS AND RECOMMENDATIONS

TTLC metals analysis of selected samples and subsequent focused STLC analysis revealed no TTLC or STLC limit exceedances in any samples analyzed from the site. The pH levels are within the values published in Title 22, Section 66708.

Volatile Organic Compounds (VOC's) were found in the samples 19, 41, 43 and 57. These samples were judged to represent the highest probability of containing VOC's, based upon the review of the field instrument readings. Table 6 shows the VOC concentrations found in the soil juxtaposed with the accepted Drinking Water Standards and the Recommended Soil Cleanup Levels (RSCL) derived by formula provided in the Appendix of the California Site Mitigation Decision Tree Manual (May 1986, Section VIII: California Soil.

TABLE 2  
TFLC Analysis

COMPOUND	STLC	TFLC	SAMPLE NUMBER											
			1	4	7	10	16	22	25	28	31	34	37	43
Antimony	15	500	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6
Arsenic	5.0	500	2.7	1.9	4.6	6.3	8.3	2.9	4.0	2.7	4.7	2.5	3.0	7.1
Barium	100	10000	64	93	53	56	88	70	110	104	92	53	102	83
Beryllium	0.75	75	0.25	0.42	0.32	0.35	0.39	0.35	0.47	0.48	0.43	1.2	0.47	0.40
Cadmium	1.0	100	0.47	0.56	ND<0.1	ND<0.1	0.21	ND<0.1	0.57	0.17	0.19	ND<0.1	0.31	0.87
Chromium, total	560	2500	14	21	45	16	22	20	36	27	24	29	27	79
Cobalt	80	8000	4.3	19	12	5.4	35	5.8	7.4	22	9.2	15	7.2	6.5
Copper	25	2500	6.1	16	42	9.2	38	8.1	14	13	11	50	12	12
Lead	5.0	1000	2.6	3.2	8.1	27	29	2.5	8.7	7.6	16.7	33	9.1	42
Mercury	0.2	20	ND<0.09	ND<0.09	ND<0.09	ND<0.09	ND<0.09	ND<0.09	ND<0.09	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6
Molybdenum	350	3500	1.6	2.5	4.6	1.3	2.6	1.9	3.3	2.4	2.2	2.1	2.7	2.5
Nickel	20	2000	12	320	150	11	120	13	22	18	15	220	17	15
Selenium	1.0	100	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6
Silver	5	500	9.4	14	9.9	10	12	11	16	17	15	17	17	13
Thallium	7.0	700	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6	ND<0.6
Vanadium	24	2400	38	53	56	44	50	44	69	67	58	55	69	52
Zinc	250	5000	24	60	69	43	68	44	60	59	54	160	60	160

ND - none detected [All units shown in parts per million (ppm)]

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TABLE 3  
 TTLC Concentrations  
 Which Equal or Exceed STLC Values

COMPOUND	TTLC	STLC	SAMPLE NUMBER											
			1	4	7	10	16	22	25	28	31	34	37	43
Antimony	500	15	----	----	----	----	----	----	----	----	----	----	----	----
Arsenic	500	5.0	----	----	----	6.3	8.3	----	----	----	----	----	----	7.1
Barium	10000	100	----	----	----	----	----	----	110	104	----	----	102	----
Beryllium	75	0.75	----	----	----	----	----	----	----	----	----	1.2	----	----
Cadmium	100	1.0	----	----	----	----	----	----	----	----	----	----	----	----
Chromium, total	2500	560	----	----	----	----	----	----	----	----	----	----	----	----
Cobalt	8000	80	----	----	----	----	----	----	----	----	----	50	----	----
Copper	2500	25	----	----	42	----	38	----	----	----	----	----	----	----
Lead	1000	5.0	----	----	8.1	27	29	----	8.7	7.6	16.7	33	9.1	42
Mercury	20	0.2	----	----	----	----	----	----	----	----	----	----	----	----
Molybdenum	3500	350	----	----	----	----	----	----	----	----	----	----	----	----
Nickel	2000	20	----	320	150	----	120	----	22	----	----	220	----	----
Selenium	100	1.0	----	----	----	----	----	----	----	----	----	----	----	----
Silver	500	5	9.4	14	9.9	10	12	11	16	17	15	17	17	13
Thallium	700	7.0	----	----	----	----	----	----	----	----	----	----	----	----
Vanadium	2400	24	38	53	56	44	50	44	69	67	58	55	69	52
Zinc	5000	250	----	----	----	----	----	----	----	----	----	----	----	----

---- = STLC not exceeded  
 All units shown in parts per million (ppm)

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TABLE 4  
STLC Analysis

COMPOUND	TTLIC (mg/Kg)	STLC (mg/L)	STLC Detection Limit (mg/L)	SAMPLE NUMBER											
				1	4	7	10	16	22	25	28	31	34	37	43
Antimony	500	15		----	----	----	----	----	----	----	----	----	----	----	----
Arsenic	500	5.0	0.03	----	----	----	0.28	0.15	----	----	----	----	----	5.3	0.16
Barium	10000	100	0.02	----	----	----	----	----	----	5.3	5.2	----	----	5.3	----
Beryllium	75	0.75	0.02	----	----	----	----	----	----	----	----	----	0.05	----	----
Cadmium	100	1.0		----	----	----	----	----	----	----	----	----	----	----	----
Chromium, total	2500	560		----	----	----	----	----	----	----	----	----	----	----	----
Cobalt	8000	80		----	----	----	----	----	----	----	----	----	----	----	----
Copper	2500	25	0.01	----	----	0.69	----	3.3	----	----	----	----	2.5	----	----
Lead	1000	5.0	0.2	----	----	TR	2.0	1.1	----	TR	TR	TR	1.1	TR	1.7
Mercury	20	0.2		----	----	----	----	----	----	----	----	----	----	----	----
Molybdenum	3500	350		----	----	----	----	----	----	----	----	----	----	----	----
Nickel	2000	20	0.08	----	8.8	2.4	----	7.0	----	0.51	----	----	12	----	----
Selenium	100	1.0		----	----	----	----	----	----	----	----	----	----	----	----
Silver	500	5	0.02	ND	ND	0.4	0.3	ND	ND	0.2	ND	ND	ND	ND	ND
Thallium	700	7.0		----	----	----	----	----	----	----	----	----	----	----	----
Vanadium	2400	24	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	5000	250		----	----	----	----	----	----	----	----	----	----	----	----

ND - None detected

TR - Trace, below detection limit

---- = STLC analysis not required

All units shown in parts per million (ppm)

TABLE 5  
Sample pH Levels

SAMPLE NUMBER	pH LEVELS
1	9.4
4	10.2
7	11.4
10	9.2
16	8.7
22	10.1
25	8.6
28	8.1
31	8.0
34	9.6
37	9.1

MIC000064

MWNA-WZI 182991

TABLE 6  
Volatile Organic Compounds

COMPOUND	DRINKING WATER STANDARDS				SAMPLE NUMBER			
	EPA MCL	EPA RMCL	CADHS Act. Level	RSCL	19	41	43	57
Methylene Chloride	----	----	40	40,000	70	..	280	86
Acetone	----	----	----	----	19	..	..	..
2-Butanone	----	----	----	----	21	..	..	..
2-Hexanone	----	----	----	----	14	..	..	..
Tetrachloroethene	----	----	4	4,000	7	..	31	27
Vinyl Acetate	----	----	----	----	..	37	..	..
1,1,1-Trichloroethane	----	200	200	200,000	<0.9	..	..	5
Trichloroethene	----	----	----	----	< 2.	..	..	13
1,2-Dichloroethane	----	----	1.0	1,000	<0.5	..	..	..
Carbon Tetrachloride	----	----	5.0	4,000	<0.4	..	..	..
Bromodichloromethane	100	----	----	----	<0.4	..	..	..
Benzene	----	----	0.7	700	< 2.	..	..	..
4-Methyl-2-Pentanone	----	----	----	----	< 9.	..	..	..
Chlorobenzene	----	----	----	----	<0.6	..	..	..
Ethylbenzene	----	----	----	----	<0.9	..	..	..
Styrene	----	----	----	----	<4.0	..	..	..

All units in ug/l = parts per billion (ppb)

RSCL = Recommended Soil Cleanup Level

EPA MCL = Environmental Protection Agency Maximum Contaminant Level

EPA RMCL = Environmental Protection Agency Recommended Maximum Contaminant Levels

CADHS Act. Level = California Department of Health Services Actions Level

---- = Standard not defined for this compound

< = Concentration is below quantitation limit

.. = Not Detected

MIC000065

MWNA-WZI 182992

A copy of this section, as well as the calculations for determining applicable RSCL's and additivity derivations, are included in Appendix D. Using these criteria, it was determined that the VOC concentrations encountered in the soil at Integrated Specialties were significantly below the RSCL's.

Study of the field data (FID and PID) from the Bermed Area showed a slight rise in instrument readings as sample depth increased. To confirm that the presence of VOC's detected in this area is indeed significant, it is recommended that additional samples be collected from the area of B-8. These samples would be collected at depths greater than those attained at B-8, using a cart-mounted hollow-stem auger drilling rig.

Sample 43 collected from Boring B-14 at 4 inches (directly below the concrete pad) exhibited the highest instrument readings during project operations. The next sample, number 44, collected 8 inches below 43 shows considerably lower readings.

Sample Number	Depth	Readings (ppm)		
		PID	FID	IR
43	4 inches	600	2000	785
44	12 inches	90	70	< 7

The concentration of VOC's in this boring location appears to be highest just beneath the concrete slab.

The analytical results for samples 52 and 53 suggest that the Electrical Transformer Pad is contaminated with low levels of PCB's. The level of PCB detected in a soil sample collected from the concrete pad itself was 4.4 ppm (Sample 52). The PCB concentration encountered in a soil sample collected from near the pad was 0.22 ppm (Sample 53). It appears that this is not a new spill nor is the concentration greater than 50 ppm. The volume of PCB containing material involved in this spillage appears to be less than one gallon. These factors preclude this spill occurrence from coming within the scope of the National PCB Spill Cleanup Policy (52 FR 10688) which became effective May 4, 1987. The policy imposes stringent standards for cleanup performance for Electrical Substations. The PCB Cleanup Level in soil is 25 ppm and on solid surfaces (i.e., the transformer pad) is 100 ug/100cm<sup>2</sup>.

Contact with the California Department of Health Services indicates that State policy is that the California action level for PCB's in soil is 50 ppm, according to Mardis Coers of the CADHS in a May 25, 1988 telephone conversation with BCLA. It therefore appears that no further sampling or remediation is required at this area.

Even though the State indicates that no action is required for this area, the owner may wish to inform the electric utility company which serviced Integrated Specialties of our findings. They may wish to initiate cleanup based on their own internal standards.

The runoff ditch has been shown to contain soil with elevated concentrations of Total Petroleum Hydrocarbons, (i.e., up to 2230 ppm). TPH is a California Regulated Waste. The CADHS has historically viewed surficial levels in excess of 1000 ppm as unacceptable. It is recommended that the runoff ditch be thoroughly cleaned of all accumulated soil. This soil is to be disposed of in a manner consistent with State standards. Verification samples should be collected at the conclusion of such cleanup activities to document that remaining soils do not contain unacceptable levels of TPH.

APPENDIX A

Engineer's Report on Groundwater Conditions

MIC000068

MWNA-WZI 182995

1983-84

ENGINEERS REPORT ON  
GROUNDWATER CONDITIONS,  
WATER SUPPLY AND BASIN UTILIZATION  
IN THE ORANGE COUNTY WATER DISTRICT

ORANGE COUNTY WATER DISTRICT  
BOARD OF DIRECTORS

Kathryn L. Barr  
John V. Fonley  
Lawrence P. Kraemer, Jr.  
Philip L. Anthony  
Langdon W. Owen  
Noble J. Waite  
Donn Hall  
John Garthe  
August F. Lenain  
Robert L. Clark

Neil M. Cline, Secretary Manager

MIC000069

MWNA-WZI 182996

Figure 2



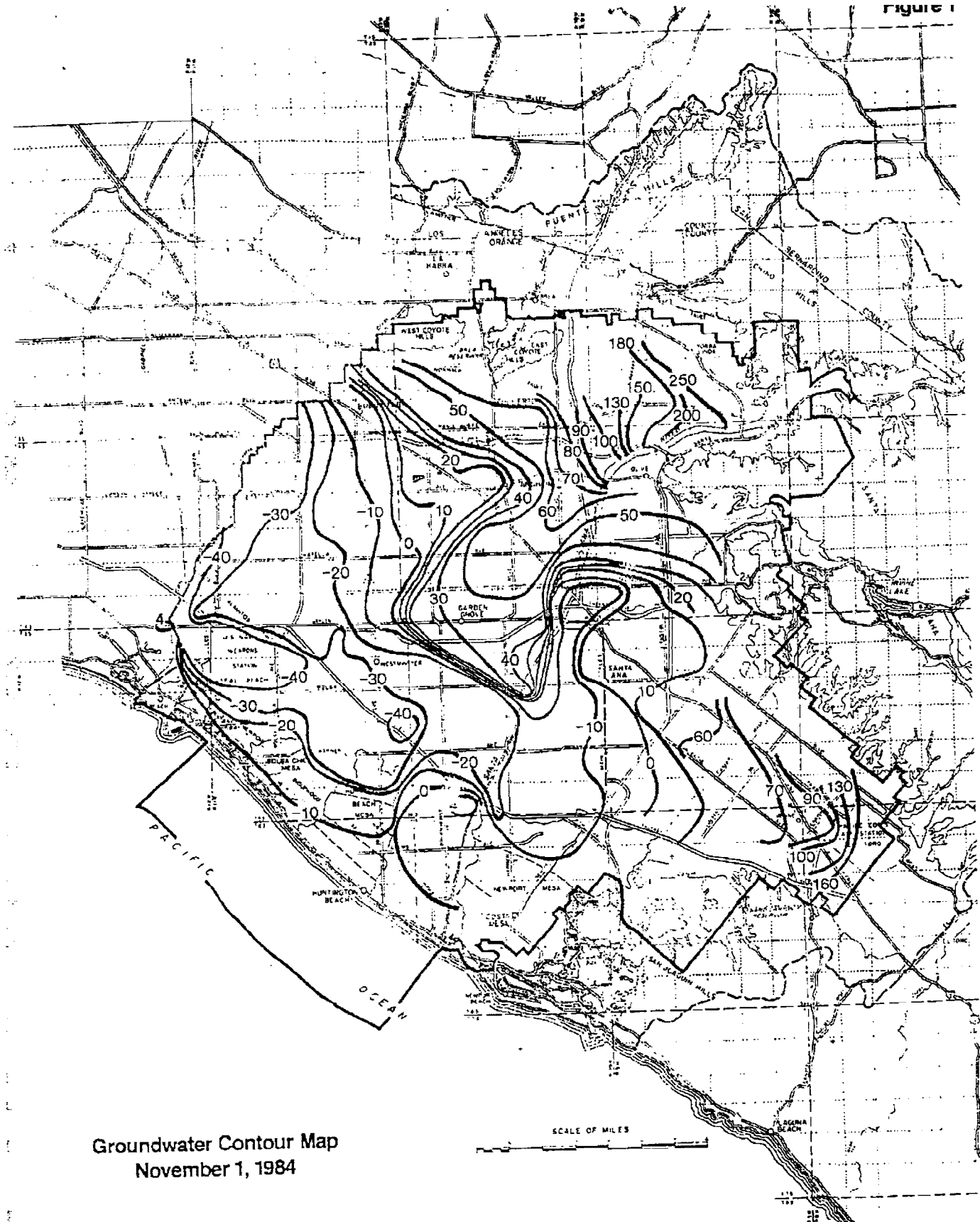
Groundwater Contour Map  
November 1, 1983

○ SITE LOCATION

MIC000070

MWNA-WZI 182997





Groundwater Contour Map  
November 1, 1984

1985-86

ENGINEERS REPORT ON  
GROUNDWATER CONDITIONS,  
WATER SUPPLY AND BASIN UTILIZATION  
IN THE ORANGE COUNTY WATER DISTRICT

ORANGE COUNTY WATER DISTRICT  
BOARD OF DIRECTORS

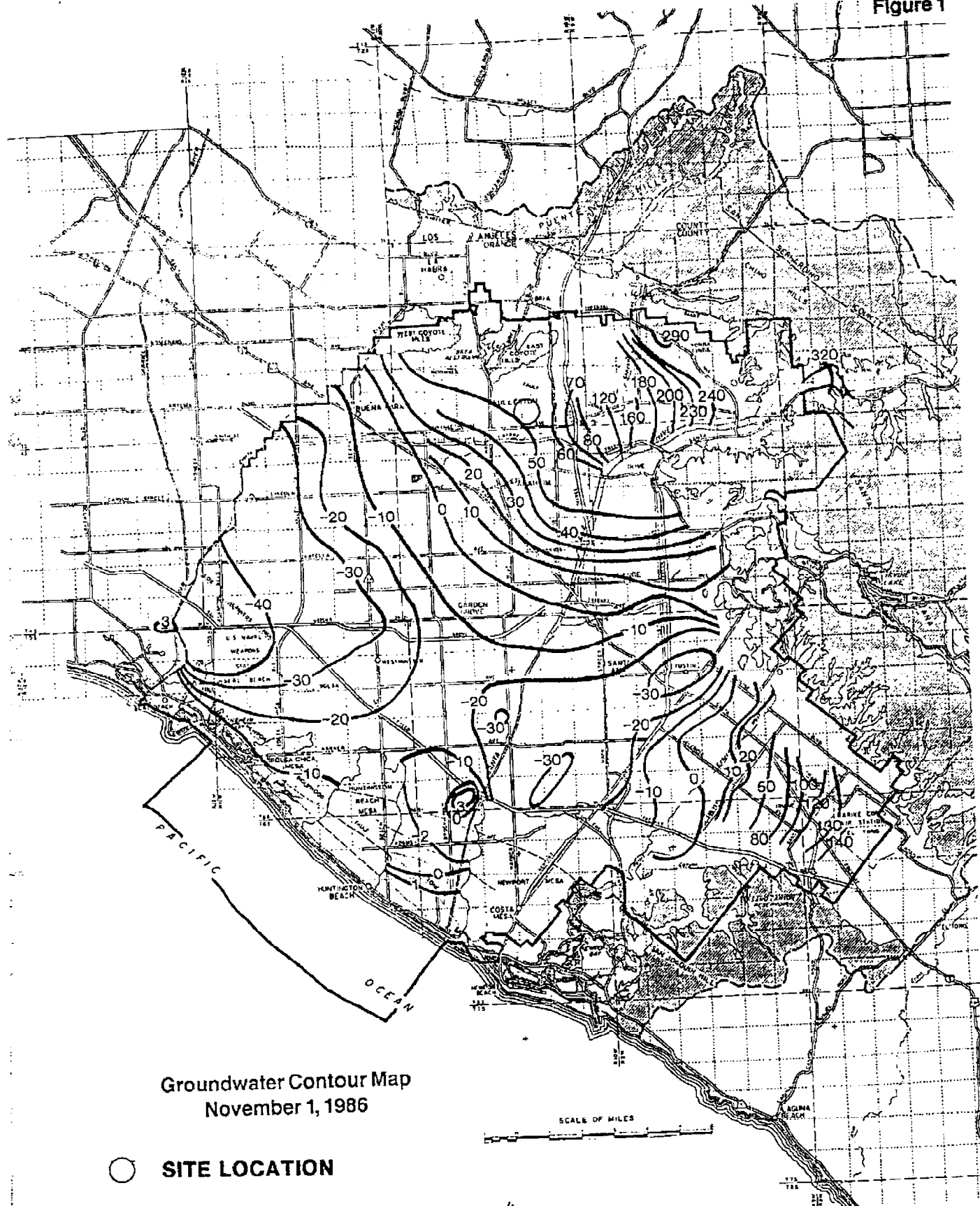
Kathryn L. Barr  
John V. Fonley  
Lawrence P. Kraemer Jr.  
Philip L. Anthony  
Langdon W. Owen  
Noble J. Waite  
Donn Hall  
John Garthe  
August F. Lenain  
Robert L. Clark

Nereus L. Richardson, Acting Secretary Manager

MIC000072

MWNA-WZI 182999

Figure 1



Groundwater Contour Map  
November 1, 1986

○ SITE LOCATION

1986-87  
ENGINEERS REPORT ON  
GROUNDWATER CONDITIONS,  
WATER SUPPLY AND BASIN UTILIZATION  
IN THE ORANGE COUNTY WATER DISTRICT

FEBRUARY 1988

ORANGE COUNTY WATER DISTRICT  
BOARD OF DIRECTORS

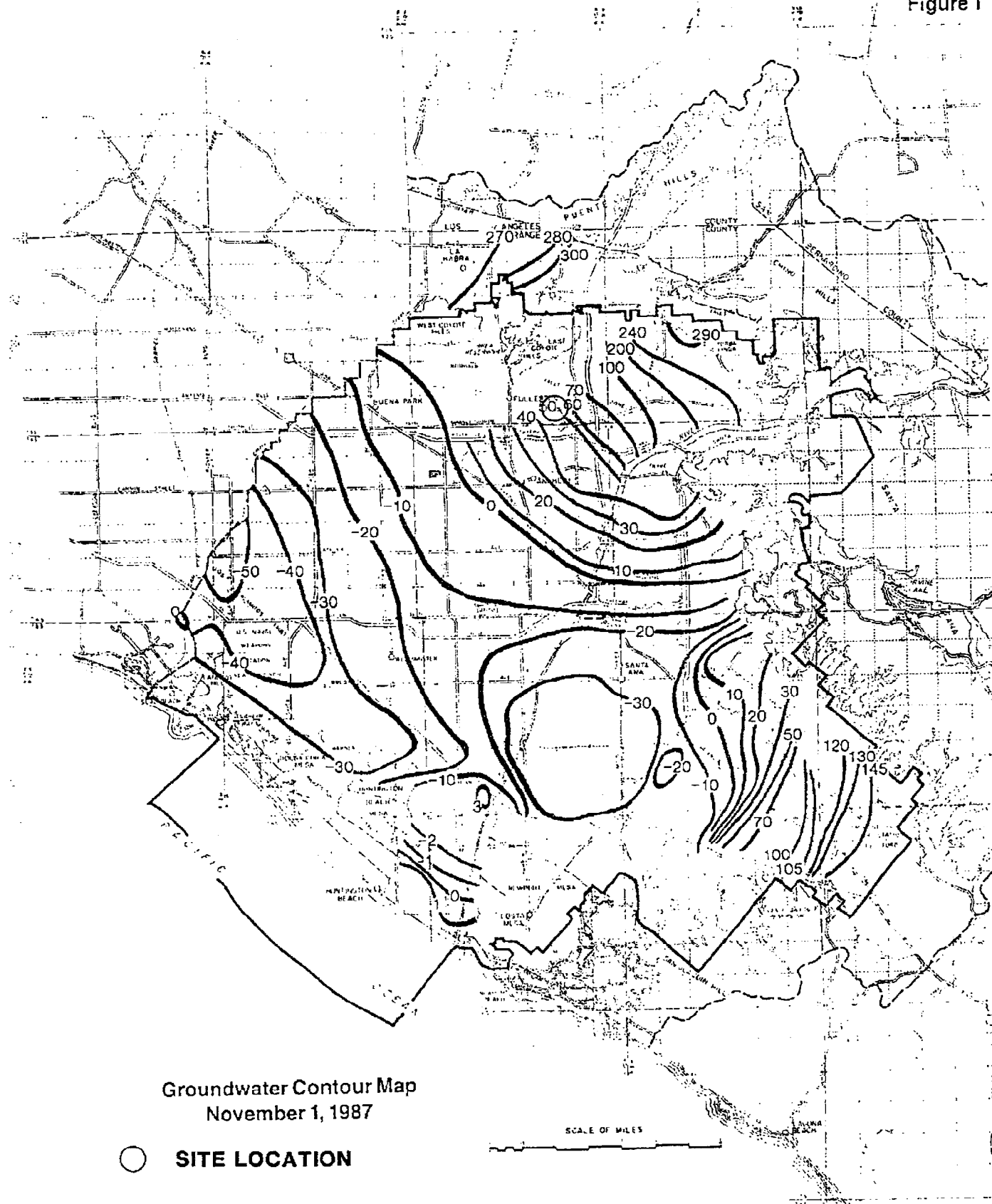
Kathryn L. Barr  
John V. Fonley  
Lawrence P. Kraemer Jr.  
Philip L. Anthony  
Langdon W. Owen  
Noble J. Waite  
Donn Hall  
John Garthe  
August F. Lenain  
Robert L. Clark

William R. Mills, Jr., General Manager

MIC000074

MWNA-WZI 183001

Figure 1



Groundwater Contour Map  
November 1, 1987

○ SITE LOCATION

SCALE OF MILES

MIC000075

MWNA-WZI 183002

APPENDIX B

Boring Logs

MIC000076

MWNA-WZI 183003

PROJECT NAME HOLACHAN.PROJECT NUMBER 88-524.BORING DESIGNATION B-1.

BORING LOCATION <u>OUTSIDE OF EAST WALL.</u> <u>NORTH OF CLIFFIER.</u>	DATE STARTED <u>1-25-88</u>	DATE FINISHED <u>1-25-88</u>
DRILLER <u>BCL</u>	COMPLETION DEPTH (FT) <u>30"</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>LAND. DUGER.</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>-</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>RORLOZO.</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. PPH. PSP FID.	SAMPLE REMARKS PSP FID. IR.
5"		4" OF ASPHALT - IN JORD CANAL TRENCH (AND GRAVEL)					
5"		TRASH OF ASPHALT	1	1/25	9:00	1 10	5 25 29 CLEAN SAND.
10"		SAND (W) LIGHT OLIVE BROWN (2.5% SLT). MED. TO FINE LOOSE SAND W/SOME SILT. POORLY GRADED. MOISTURE ~ 18%					
15"							
20"		SAND (W) OLIVE BROWN (2.5% SLT). MED TO FINE SAND BY SOME SILT-LOG. COMPACTED. POORLY GRADED. MOISTURE ~ 10%	2		9:05	1 10	15 30 7 CLEAN SAND.
25"							
30"		SAND, AS ABOVE	3		9:10	1 10	9 30 14 CLEAN SAND.

BCL1283-2

MIC000077

MWNA-WZI 183004

PROJECT NAME HALLOCKLON.PROJECT NUMBER 88-524BORING DESIGNATION B-2

BORING LOCATION <u>OUTSIDE OF BEARER CONCRETE PAD EAST-WALL.</u>		DATE STARTED <u>1-25-88</u>		DATE FINISHED <u>1-25-88</u>	
DRILLER <u>BCL</u>		COMPLETION DEPTH (FT) <u>42'</u>		NUMBER OF SAMPLES <u>11</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM		WATER DEPTH (FT) <u>—</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>ROS LAZ.</u>			

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. PPM		SAMPLE PPM		
						P.D.	F.D.	P.D.	F.D.	I.R.
0"		1" ASPHALT - IN GOOD CONDITION								
5"		6" CONCRETE - IN GOOD CONDITION - NO CRACKS								
10"		SAND (W) OLIVE BROWN (2.5% 4%) MOD. COMPACTED FINE SILTY SAND. MOISTURE ≈ 10%	4	1/25	9.40	1	10	8	25	7
15"										
20"	SM	SAND, AS ABOVE	5		9.45	1	10	24	30	14
25"										
30"		SAND, AS ABOVE	6		9.50	1	10	20	48	14
35"										
40"		SAND, AS ABOVE	13		13.15	0.5	11	19	12	7
45"										

BCL1283-2

MIC000078

MWNA-WZI 183005



PROJECT NAME HCLACHLANPROJECT NUMBER 88-524BORING DESIGNATION B-3

BORING LOCATION	OUTSIDE OF BERMED CONCRETE PAD. EAST WALL.	DATE STARTED	1-25-88	DATE FINISHED	1-25-88
DRILLER	BCLA	COMPLETION DEPTH (FT)	42'	NUMBER OF SAMPLES	4
DRILLING EQUIPMENT	HAND AUGER	ELEVATION AND DATUM		WATER DEPTH (FT)	-
DIAMETER AND TYPE OF WELL CASING		LOGGED BY	ROS. LAZZ		

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	SAMPLE			
						PID	FID	PID	FID
0'		1" ASPHALT							
5'		5" OF CONCRETE IN GOOD CONDITION.							
10'		SAND (w) YELLOWISH BROWN (10YR 5/8) MED TO FINE SILTY SAND. MOD COMPACTED, POORLY GRADED. MOISTURE ~ 10%. SHOWS SOME OXIDATION.	7	1/25	1030	1	10	20	28 21
15'									
20'									
25'									
30'		SAND (w) OLIVE BROWN (2.5Y4/4) MOD. COMPACTED, FINE SILTY SAND MOISTURE ~ 10%.	8		1040	1	10	18	24 < 7
35'									
40'									
45'		SAND, AS ABOVE	9		1050	1	10	24	28 < 7
50'									
55'									
60'		SAND, AS ABOVE	14		1320	07	11	15	20 < 7
65'									

BCL1283-2

MIC000079

MWNA-WZI 183006

PROJECT NAME McLACHLAN.PROJECT NUMBER 88-524.BORING DESIGNATION B-4

BORING LOCATION <u>OUTSIDE OF BECHCO CONCRETE PAD.</u> <u>EAST WALL - N EAST OF CLARIFIER.</u>		DATE STARTED <u>1-25-88</u>		DATE FINISHED <u>1-25-88</u>	
DRILLER <u>BCLA.</u>		COMPLETION DEPTH (FT) <u>45'</u>		NUMBER OF SAMPLES <u>4</u>	
DRILLING EQUIPMENT <u>HAND AUGER.</u>		ELEVATION AND DATUM		WATER DEPTH (FT) <u>-</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>ROD. L. 20</u>			

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. PPM.		S.A.M.P.L.E. PPM.		REMARKS	I.C.
						PIV	PI9	PI9	PI9		
5"		10" OF ASPHALT IN GOOD COND. FROM (NO CRACKS).									
10"		SAND (W) OLIVE (S/L 4/4) MED. LOOSE SAND W/ SOME GRAVEL. POORLY GRADED. MOISTURE ≈ 10%	10	1/25	11:00	1	10	30	50	93	CLEAN SAND.
20"		SAND (W) OLIVE GRAY (S/L 4/4). MED. COMPACTED, FINE SILTY SAND. MOISTURE ≈ 10%	11		11:10	1	10	30	60	7	CLEAN SAND.
30"		SAND, AS ABOVE.	12		11:20	1	10	22	32	7	CLEAN SAND.
45'		SAND AS ABOVE.	15		13:25	1	12	6	19	7	CLEAN SAND.

BCL1283-2

MIC000080

MWNA-WZI 183007

PROJECT NAME MCLACHLAN

PROJECT NUMBER 88-524

BORING DESIGNATION B.5

BORING LOCATION <u>BEARDED CONCRETE PAD NEAR THE EAST WALL. (INVEST)</u>	DATE STARTED <u>1-25-88</u>	DATE FINISHED <u>1-25-88</u>
DRILLER <u>BCLA</u>	COMPLETION DEPTH (FT) <u>32'</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND AUGER</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>-</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>RAD, LAZ</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	BG. PPM. PID. FID.	SAMPLE PPM. REMARKS PID. FID. IR
5"		8" CONCRETE & REBAR CORROSION ON SURFACE BUT, NO CRACKS.					
10"		SILT-CLAYEY SAND (w) OLIVE (5 7/8). MOD COMPACTED. W/ TRACES OF GRAVEL. MOIST-10%	16	1/25	1330	1.0 10	13 0.02% 57 CLEAN SAND
15"							
20"	SM	SILT-CLAYEY SAND, AS ABOVE	17		1335	1.0 10	16 190 14 CLEAN SAND
25"							
30"							
35"		SILT-CLAYEY SAND, AS ABOVE	18		1340	1.0 8	23 80 7 CLEAN SAND

BCL1283-2

MIC000081

MWNA-WZI 183008

PROJECT NAME HELACHANPROJECT NUMBER 88-524BORING DESIGNATION B-6

BORING LOCATION <u>NORTH TCE 111 TANK AREA</u>		DATE STARTED <u>1-25-88</u>		DATE FINISHED <u>1-25-88</u>	
DRILLER <u>BCL</u>		COMPLETION DEPTH (FT) <u>30"</u>		NUMBER OF SAMPLES <u>3</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM		WATER DEPTH (FT) <u>-</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>ROD LAZO</u>		TANK PIT	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	SG. PPM.		SAMPLE PPM		
						PIG	FID	PIG	FID	IR
5'		6" CONCRETE SLAB, IN GOOD CONDITION (NO CRACKS).								
10'		SILTY CLAYEY SAND (w) OLIVE (SY 4/4). MOD. COMPACTED. MOISTURE ≈ 10%	19	1/25	1400	1.0	10	142	0.028%	150 CLEAN SAND.
15'										
20'	SM	SILTY CLAYEY SAND, as ABOVE.	20		1405	1.0	8	154	190	143 CLEAN SAND.
25'										
30'		SAND (w) OLIVE (SY 4/4). FINE TO VERY FINE LOOSE SAND. POORLY GRADED. MOD. COMPACTED. MOISTURE ≈ 10%	21		1410	1.0	10	15	70	71 CLEAN SAND.
35'										
40'										

BCL1283-2

MIC000082

MWNA-WZI 183009

PROJECT NAME McLACHLANPROJECT NUMBER 88-524BORING DESIGNATION B-7

BORING LOCATION <u>BEHIND CONCRETE PAD WEST WALL AREA OF THE EAST WALL (INSIDE)</u>	DATE STARTED <u>1-25-88</u>	DATE FINISHED <u>1-25-88</u>
DRILLER <u>BCLP</u>	COMPLETION DEPTH (FT) <u>30"</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND AUGER</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>-</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>RDD LAD</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	BSG PPM. FID FID	SAMPLE PPM. FID FID	REMARKS
5"		3" CONCRETE PAD IN GOOD CONDITION (NO CRACKS).						
5"		3" CONCRETE PAD IN GOOD CONDITION (NO CRACKS).						
10"		SAND (W) OLIVE YELLOW (57 6/8) FINE TO VERY FINE LOOSE SAND POORLY GRADED. MOISTURE ~ 10%	22	1/25	14:40	10	8	12 22 <7 CLEAN SAND.
15"								
20"		SAND, AS ABOVE	23		14:45	10	10	32 75 <7 CLEAN SAND.
25"	SM							
30"		SAND (W) OLIVE (57 4/4) MED. TO FINE SILTY SAND. POORLY GRADED. MOD. COMPACTED. MOISTURE ~ 10%	24		14:50	10	10	62 70 <7 CLEAN SAND.
35"								
40"								

BCL1283-2

MIC000083

MWNA-WZI 183010

PROJECT NAME McLACHLANPROJECT NUMBER 88-534

BORING DESIGNATION

B-8

BORING LOCATION <u>BEHIND CONCRETE PAD IN WIDE EAST WALL</u>		DATE STARTED <u>1-26-88</u>		DATE FINISHED <u>1-26-88</u>	
DRILLER <u>BCL II</u>		COMPLETION DEPTH (FT) <u>41'</u>		NUMBER OF SAMPLES <u>4</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM		WATER DEPTH (FT)	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>KDO LA W</u>			

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	SG. PPM.		SAMPLE PPM.		
						PID	FED	PID	FED	IR
5"		5" CONCRETE SLAB. UNIFORM CONCRETE BUT NO GRAD.		1/26	855	1	10	12	40	7
10"		SAND (W) OLIVE MED. TO FINE SAND W/ SOME SFT. MASH. COM. PACTED. POORLY GRADED MASH. 10%	25							
15"		SAND, AS ABOVE	26		900	1	10	16	60	7
20"	SM									
25"										
30"		SAND, AS ABOVE	27		905	1	10	28	30	40.5
35"										
40"		SAND, AS ABOVE	27		1500	1	10	120	0.03%	27
41"										

BCL1283-2

MIC000084

MWNA-WZI 183011

PROJECT NAME McLACHLANPROJECT NUMBER 88-524BORING DESIGNATION B-9

BORING LOCATION <u>BERNED CONCRETE PAD IN-ROAD EAST WALL</u>		DATE STARTED <u>1-26-88</u>		DATE FINISHED <u>1-26-88</u>	
DRILLER <u>BCL</u>		COMPLETION DEPTH (FT) <u>28'</u>		NUMBER OF SAMPLES <u>3</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM		WATER DEPTH (FT) <u>—</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>RADLAZ</u>			

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	BG. PPM		SAMPLE REMARKS		
						PER	FID	PER	FID	IP
0.0		4" CONCRETE SLAB w/ REINFORCING BUT NO CRACKS								
5.0		SAND (w/ OLIVE (57%) NEXT TO FINE SAND w/ SOME SILT. MOD. COMPACTED. POORLY GRADED. MOISTURE ≈ 10%	28	1/26	4:20	1	10	24	50	< 7 CLEAN SAND
10.0										
15.0		SAND, AS ABOVE	29		9:35	1	10	58	30	< 7 CLEAN SAND
20.0										
25.0										
30.0		SAND, AS ABOVE	30		9:30	1	10	32	100	< 7 CLEAN SAND
35.0										
40.0										

BCL1283-2

MIC000085

MWNA-WZI 183012

PROJECT NAME McLachlan

PROJECT NUMBER 88-524

BORING DESIGNATION B-10

BORING LOCATION <u>GRAVEL CONCRETE PAD, INSIDE BASIN W.C.H.</u>	DATE STARTED <u>1-26-88</u>	DATE FINISHED <u>1-26-88</u>
DRILLER <u>BCLA</u>	COMPLETION DEPTH (FT) <u>28"</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND. AUGER</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>-</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>ROS. ADZO</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. 10' P.D. 10' F.D.	SAMPLE P.P.A. 10' F.D. 10' F.D.	REMARKS
5"		4" CONCRETE SLAB. W/ COAGULATED BUT NO CRACKS.	31	1/26	9:00	1	10	25 80 7 CLEAN SAND.
10"		SAND (W. OLIVE) (57 4/4). MED. TO FINE SAND W/ SOME SILT. MOD. COMPACTION. POORLY GRADED. MOISTURE < 10%.						
15"								
20"	SM	SAND AS ABOVE	32		9:45	1	10	12 40 < 7 CLEAN SAND.
25"								
30"		SAND AS ABOVE	33		9:50	1	10	40 80 < 7 CLEAN SAND.
35"								

BCL1283-2

MIC000086

MWNA-WZI 183013



PROJECT NAME McLACHLANPROJECT NUMBER 88-524BORING DESIGNATION B-11

BORING LOCATION <u>BURNED CONCRETE PAD. INSIDE EAST WALL</u>	DATE STARTED <u>1-26-88</u>	DATE FINISHED <u>1-26-88</u>
DRILLER <u>BCLA</u>	COMPLETION DEPTH (FT) <u>31'</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND AUGER</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>-</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>KOD LKW</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	RG. PPM. PTD FID	SAMPLE PPM. PTD FID IN.
5'		12" CONCRETE SLAB. W/SOME CORROSION BUT NO CRACKS					
10'							
15'		SAND (W) OLIVE (SY 4/4). MED. TO FINE SAND W/SOME SILT. MOD COMPACTED. POORLY GRADED. MOISTURE = 10%	34	1/26	10:00	1 10	25 40 < 7 CLEAN SAND.
20'							
24"	SM	SAND AS ABOVE	35		10:05	1 10	30 80 < 7 CLEAN SAND.
30'							
35"		SAND, AS ABOVE	36		10:10	1 10	60 150 7 CLEAN SAND.
40'							
45"							

BCL1283-2

MIC000087

MWNA-WZI 183014

PROJECT NAME McLACHLAN  
PROJECT NUMBER 88-524BORING DESIGNATION B-12

BORING LOCATION <u>BEHIND CONCRETE PAD INSIDE EAST WALL.</u>	DATE STARTED <u>1-26-88</u>	DATE FINISHED <u>1-26-88</u>
DRILLER <u>BELTA</u>	COMPLETION DEPTH (FT) <u>31"</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND TRUGER.</u>	ELEVATION AND DATUM	WATER DEPTH (FT) <u>—</u>
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>BOO LAZO</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	BC PPM PID. PID.	SAMPLE PPM REMARKS PID. PID. IR.
5"	0 0 0	6" CONCRETE SLAB WITH SOME CORROSION BUT NO CRACKS					
10"	0 0 0	6" CONCRETE SLAB IN GOOD CONDITION					
15"		SAND, W/ OLIVE (S) 4/4 WED. TO FINE SAND W/ SOME SILT. MOD. COMPACTED. POORLY GRADED. MOIST ~ 10%	37	1/28	10:40	1 10	15 40 < 7 CLEAN SAND.
25"	SM	SAND, AS ABOVE	38		10:45	1 10	20 60 < 7 CLEAN SAND
35"		SAND, AS ABOVE	39		10:50	1 10	30 80 < 7 CLEAN SAND
40"							

BCL1283-2

MIC000088

MWNA-WZI 183015

PROJECT NAME McLACHLANPROJECT NUMBER 88-534BORING DESIGNATION B-13

BORING LOCATION <u>NEAR (TCE) TANK. NEAR. CENTER OF BUILDING.</u> <u>IN CONCRETE PIT.</u>	DATE STARTED <u>1.26.88</u>	DATE FINISHED
DRILLER <u>BCLA</u>	COMPLETION DEPTH (FT) <u>30'</u>	NUMBER OF SAMPLES <u>3</u>
DRILLING EQUIPMENT <u>HAND AUGER</u>	ELEVATION AND DATUM	WATER DEPTH (FT)
DIAMETER AND TYPE OF WELL CASING	LOGGED BY <u>RED. L. L.</u>	<u>3" F.P.T.</u> <u>B-13</u>

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. PPM. P.D. F.P.	SAMPLE PPM. P.D. F.P. I.P.
5'		6" CONCRETE - IN GOOD CONDITION.					
10'	SM.	SAND (W) LIGHT OLIVE BROWN (2.57 5/4). MED. TO FINE (LOOSE SAND) POORLY GRADED. MOD. JELLY ~ 10 1/2	40	1/26	11:10	1 10	15 30 14 CLEAN SAND.
20'	SM. S.P.	SAND (W) PALE YELLOW (2.57 7/3). MED. TO COARSE SAND LOOSE AND DRY. MOD. GRADED.	41		11:15	1 10	35 70 85 CLEAN SAND.
30'		SAND, AS ABOVE	42		11:20	1 10	30 50 14 CLEAN SAND.

BCL1283-2

MIC000089

MWNA-WZI 183016

PROJECT NAME McLACHLAN.PROJECT NUMBER 88-524.BORING DESIGNATION B-14

BORING LOCATION <u>COOLING WATER Sump.</u>		DATE STARTED <u>1.26.88</u>		DATE FINISHED <u>1.26-88</u>	
DRILLER <u>BCLA</u>		COMPLETION DEPTH (FT) <u>8'</u>		NUMBER OF SAMPLES <u>9</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM <u>-</u>		WATER DEPTH (FT) <u>-</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>KOD. LAD</u>		EAST OF COOLING TANKS.	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.G. PPH P.D. - F.D.	SAMPLE PPH REMARKS P.D. - F.D. I.R.
0'		4" CONCRETE SLAB (NO CRACKS)					
1'		SAND (W) OLIVE BROWN (2.5% 4.5%) FINE TO VERY FINE SILTY SAND. MOD. COMPACTED, POORLY GRADED. MOISTURE ≈ 10%.	43	1/26	1300	1 10	600 0.2% 785 CLEAN SAND.
2'		SAND, AS ABOVE	44	1/26	1305	1 10	90 70 27 CLEAN SAND.
3'		SAND, AS ABOVE	45	1/26	1310	1 10	110 150 14 CLEAN SAND.
4'		SAND, AS ABOVE	46	1/26	1315	1 10	100 70 27 CLEAN SAND.
5'		SAND, AS ABOVE	47	1/26	1320	1 10	25 20 27 CLEAN SAND.
6'		SAND, AS ABOVE	48	1/26	1325	1 10	15 20 14 CLEAN SAND.
7'		SAND, AS ABOVE	49	1/26	1330	1 10	20 15 27 CLEAN SAND.
8'		SAND, AS ABOVE	50	1/26	1335	1 10	25 25 27 CLEAN SAND.
8'		SAND (W) LIGHT OLIVE BROWN (2.5% 5%). FINE TO VERY FINE LOOSE SAND, POORLY GRADED. MOISTURE ≈ 10%.	51	1/26	1340	1 10	40 60 27 CLEAN SAND.

BCL1283-2

MIC000090

MWNA-WZI 183017

PROJECT NAME Mc LACHLANPROJECT NUMBER 88-524

BORING DESIGNATION

B-15

BORING LOCATION <u>WEST END OF CONCRETE PAD (ELECTRIC TRANSFORMER)</u>		DATE STARTED <u>1-26-88</u>		DATE FINISHED <u>1-26-88</u>	
DRILLER <u>ECOR</u>		COMPLETION DEPTH (FT) <u>24"</u>		NUMBER OF SAMPLES <u>3</u>	
DRILLING EQUIPMENT <u>HAND AUGER</u>		ELEVATION AND DATUM		WATER DEPTH (FT) <u>-</u>	
DIAMETER AND TYPE OF WELL CASING		LOGGED BY <u>ROD LOED</u>		<u>IN PLASTER</u>	

DEPTH (FEET)	LITHOLOGY	DESCRIPTION	SAMPLE NO.	DATE	TIME	B.S. PPM		SAMPLE PPM		REMARKS	
						PIV	PIV	PIV	PIV		
5		SAND (W/ OLIVE SCUMM (25%)) FINE TO VERY FINE SILTY SAND. MOD COMPACTED. MOISTURE ~ 12%.	53	1/26	1405	1	10	10	15	110	CLEAN SAND.
10	SM	SAND AS ABOVE	54		1405	1	10	5	12	14	CLEAN SAND.
15											
20											
24		SAND, AS ABOVE	55		1410	1	10	5	12	27	CLEAN SAND

BCL1283-2

MIC000091

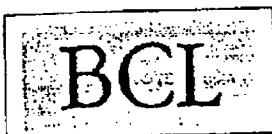
MWNA-WZI 183018

APPENDIX C

Laboratory Analytical Reports

MIC000092

MWNA-WZI 183019



BCL ASSOCIATES, INC.  
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5702 Bolsa Avenue, Huntington Beach, CA 92649 / (714) 892-2565  
(213) 437-4148

LABORATORY REPORT

Report to: BCL Associates, Inc.

5702 Bolsa Ave.

Huntington Beach, CA 92649

Client Number: 88-524

Laboratory Number: 00078

Report Date: 2/22/88

Received Date: 1/26/88

Purchase Order No.: \_\_\_\_\_

Attention: Jim Severns

Sample Description: Seven soil samples

Testing Methods: pH/EPA method 9045; TTLC metals/ICP & AA, Title 22;  
GC/MS, EPA Method 8240

<u>BCL #</u>	<u>Client Sample #</u>	<u>Test</u>	<u>Results (mg/Kg)</u>	<u>Analyst</u>	<u>Date of Analysis</u>
38-0078-001	#1	pH	9.4	NY	1/29
38-0078-004	#4	pH	10.2	NY	1/29
38-0078-007	#7	pH	11.4	NY	1/29
38-0078-010	#10	pH	9.2	NY	1/29
38-0078-016	#16	pH	8.7	NY	1/29
38-0078-019	#19	8240	*	JK	*
38-0078-022	#22	pH	10.1	NY	1/29

\* See attached summary sheets.

Beth Riley  
Beth Riley  
Environmental Chemist

3.48F1.R60

Steve Jones  
Steve Jones, Ph.D.  
Laboratory Manager

MIC000093

MWNA-WZI 183020

B C L

Analytical Laboratories 5702 Bolsa Avenue Huntington Beach, CA 92649 (714) 892-2565

ANALYTICAL RESULTS SUMMARY  
AA and ICP Analyses

Client Name: BCL Associates, Inc.  
 Client Job Number: 88-524  
 Project Name: McLachlan  
 Laboratory Supervisor Approval: \_\_\_\_\_  
 Date: \_\_\_\_\_

Client (Field) Sample No.: \_\_\_\_\_  
 Date Collected: 1-25-88  
 Date Received (in lab): 1-26-88  
 Date Analyzed: \_\_\_\_\_

Sample Matrix:

Dilution Factor: \_\_\_\_\_  
 Extraction Method: EPA 3050

☐ Water (milligrams per liter)Lab Sample No.: 00078☒ Soil (milligrams per kilogram)☐ Other (specify) \_\_\_\_\_

Elements	Threshold Level STLC	Threshold Level TILC	Method	TILC Detection Limit	#10 38-00078- 010	#16 38-00078- 016	#22 38-00078- 022
Antimony, Sb	1.5	500	6010	0.6	ND	ND	ND
Arsenic, As	5.0	500	7060	0.3	6.3	8.3	2.9
Barium, B	100	10,000	6010	2	56	88	70
Beryllium, Be	0.75	75	6010	0.1	0.35	0.39	0.35
Cadmium, Cd	1.0	100	6010	0.1	ND	0.21	ND
Chromium, Cr	51.0	2,500	6010	0.2	16	22	20
Cobalt, Co	80	8,000	6010	1	5.4	35	5.8
Copper, Cu	25	2,500	6010	0.4	9.2	38	8.1
Lead, Pb	5.0	1,000	7421	0.2	27	29	2.5
Mercury, Hg	0.2	20	7471	0.09	ND	ND	ND
Molybdenum, Mo	350	3,500	6010	0.2	1.3	2.6	1.9
Nickel, Ni	20	2,000	6010	0.8	11	120	13
Selenium, Se	1.0	100	7740	0.6	ND	ND	ND
Silver, Ag	5	500	6010	0.2	10	12	11
Thallium, Tl	7.0	700	6010	0.6	ND	ND	ND
Vanadium, V	24	2,400	6010	1	44	50	44
Zinc, Zn	250	5,000	6010	0.1	43	68	44

ND - none detected

TR - trace, below detection limit



B C L

Analytical Laboratories 5702 Bolsa Avenue Huntington Beach, CA 92649 (714) 892-2565

ANALYTICAL RESULTS SUMMARY  
AA and ICP Analyses

Client Name: BCL Associates, Inc.  
Client Job Number: 88-524  
Project Name: McLachlan  
Laboratory Supervisor Approval: \_\_\_\_\_  
Date: \_\_\_\_\_

Client (Field) Sample No.: \_\_\_\_\_  
Date Collected: 1-25-88  
Date Received (in lab): 1-26-88  
Date Analyzed: \_\_\_\_\_

Sample Matrix:

Dilution Factor: \_\_\_\_\_  
Extraction Method: EPA 3050

☐ Water (milligrams per liter)

Lab Sample No.: 00078

☒ Soil (milligrams per kilogram)

☐ Other (specify) \_\_\_\_\_

Elements	Threshold Level STLC	Threshold Level TTLIC	Method	TTLIC Detection Limit	#1 38-00078- 001	#4 38-00078- 004	#7 38-00078- 007
Antimony, Sb	1.5	500	6010	0.6	ND	ND	ND
Arsenic, As	5.0	500	7060	0.3	2.7	1.9	4.6
Barium, B	100	10,000	6010	2	64	93	53
Beryllium, Be	0.75	75	6010	0.1	0.25	0.42	0.32
Cadmium, Cd	1.0	100	6010	0.1	0.47	0.56	ND
Chromium, Cr	51.0	2,500	6010	0.2	14	21	45
Cobalt, Co	80	8,000	6010	1	4.3	19	12
Copper, Cu	25	2,500	6010	0.4	6.1	16	42
Lead, Pb	5.0	1,000	7421	0.2	2.6	3.2	8.1
Mercury, Hg	0.2	20	7471	0.09	ND	ND	ND
Molybdenum, Mo	350	3,500	6010	0.2	1.6	2.5	4.6
Nickel, Ni	20	2,000	6010	0.8	12	320	150
Selenium, Se	1.0	100	7740	0.6	ND	ND	ND
Silver, Ag	5	500	6010	0.2	9.4	14	9.9
Thallium, Tl	7.0	700	6010	0.6	ND	ND	ND
Vanadium, V	24	2,400	6010	1	38	53	56
Zinc, Zn	250	5,000	6010	0.1	24	60	69

ND - none detected

TR - trace, below detection limit

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

BCLA LAB NO.

#19

Client Name: BCL ASSOCIATES

Job No.: 88-524

Matrix: (soil/water) SOIL

Sample No.: 00078-006

Sample wt/vol: 5.5 mL

Data File ID: >2AAK4

Date Received: 01/26/88

Date Analyzed: 2/05/88

Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS	
		ug/Kg	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	70.	B
67-64-1	Acetone	19.	B
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	.5	T
78-93-3	2-Butanone	21.	B
71-55-6	1,1,1-Trichloroethane	.9	T
56-23-5	Carbon Tetrachloride	.4	T
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	.4	T
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	2.	T
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	2.	T
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	9.	T
591-78-6	2-Hexanone	14.	B
127-18-4	Tetrachloroethene	7.	
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	.6	T
100-41-4	Ethylbenzene	.9	T
100-42-5	Styrene	4.	T
133-02-7	Xylene (total)	5.	U

U = Compound undetected. Concentration listed is detection limit.

T = Trace amount. Concentration is below detection limit.

B = Found in blank.



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L A B O R A T O R Y   R E P O R T

Report to: BCL Associates, Inc.  
5702 Bolsa Ave.  
Huntington Beach, CA 92649

Client Number: 88-524  
Laboratory Number: 00081  
Report Date: 2-10-88  
Received Date: 1-27-88  
Purchase Order No.: \_\_\_\_\_


Attention: James Severns

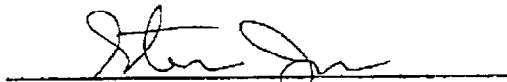
Sample Description: 10 soil samples

Testing Methods: pH/EPA method 9045; EPA 3050/TTLC Metals (Title 22); EPA 8240; EPA 8080

<u>BCL #</u>	<u>Client Sample #</u>	<u>Test</u>	<u>Results</u>	<u>Analyst</u>	<u>Date of Analysis</u>	<u>Reporting Limit</u>
38-00081-001	25	pH	8.6	NY	1/29	
		TTLC	*	BR	2/1	*
38-00081-002	28	pH	8.1	NY	1/29	
		TTLC	*	BR	2/1	*
38-00081-003	31	pH	8.0	NY	1/29	
		TTLC	*	BR	2/1	*
38-00081-004	34	pH	9.6	NY	1/29	
		TTLC	*	BR	2/1	*
38-00081-005	37	pH	9.1	NY	1/29	
		TTLC	*	BR	2/1	*
38-00081-006	41	8240	*	JK	2/5	*

\* See attached sheets.

  
Beth Riley  
Environmental Chemist

  
Steve Jones, Ph.D.  
Lab Manager

3.48F.R59

MIC000097

MWNA-WZI 183024

LABORATORY REPORT (continued)

<u>BCL #</u>	<u>Client Sample #</u>	<u>Test</u>	<u>Results</u>	<u>Analyst</u>	<u>Date of Analysis</u>	<u>Reporting Limit</u>
38-00081-007	43	pH	9.3	NY	1/29	
		8240	*	JK	2/5	*
		TTLc	*	BR	2/1	*
38-00081-008	52	8080				
		(PCB's)	4.4 ppm	RB	2/9	0.8 ppm
38-00081-009	53	8080				
		(PCB's)	0.22 ppm	RB	2/9	0.008 ppm
38-00081-010	57	8240	*	JK	2/5	*

\* See attached sheets

BCL

3.48F.R59.1

MIC000098

MWNA-WZI 183025

B C L

Analytical Laboratories 5702 Bolsa Avenue Huntington Beach, CA 92649 (714) 892-2565

## ANALYTICAL RESULTS SUMMARY

AA and ICP Analyses

Client Name: BCL Associates, Inc.  
 Client Job Number: 88-524  
 Project Name: McLachlan  
 Laboratory Supervisor Approval: \_\_\_\_\_  
 Date: \_\_\_\_\_

Client (Field) Sample No.: \_\_\_\_\_  
 Date Collected: 1-26-88  
 Date Received (in lab): 1-27-88  
 Date Analyzed: \_\_\_\_\_

Sample Matrix:

Dilution Factor: \_\_\_\_\_  
 Extraction Method: EPA 3050

☐ Water (micrograms per liter)

Lab Sample No.: 00081

☒ Soil (micrograms per kilogram)☐ Other (specify) \_\_\_\_\_

Elements	Threshold Level STLC	Threshold Level TTLC	Method	TTLC Detection Limit	#25 38-00081- 001	#28 38-00081- 002	#31 38-00081- 003
Antimony, Sb	1.5	500	6010	0.6	ND	ND	ND
Arsenic, As	5.0	500	7060	0.3	4.0	2.7	4.7
Barium, B	100	10,000	6010	2	110	104	92
Beryllium, Be	0.75	75	6010	0.1	0.47	0.48	0.43
Cadmium, Cd	1.0	100	6010	0.1	0.57	0.17	0.19
Chromium, Cr	51.0	2,500	6010	0.2	36	27	24
Cobalt, Co	80	8,000	6010	1	7.4	22	9.2
Copper, Cu	25	2,500	6010	0.4	14	13	11
Lead, Pb	5.0	1,000	7421	0.2	8.7	7.6	16.7
Mercury, Hg	0.2	20	7471	0.09	ND	ND	ND
Molybdenum, Mo	350	3,500	6010	0.2	3.3	2.4	2.2
Nickel, Ni	20	2,000	6010	0.8	22	18	15
Selenium, Se	1.0	100	7740	1.6	ND	ND	ND
Silver, Ag	5	500	6010	0.2	16	17	15
Thallium, Tl	7.0	700	6010	0.6	ND	ND	ND
Vanadium, V	24	2,400	6010	1	69	67	58
Zinc, Zn	250	5,000	6010	0.1	60	59	54

ND - none detected

TR - trace, below detection limit

B C L

Analytical Laboratories 5702 Bolsa Avenue Huntington Beach, CA 92649 (714) 892-2565

## ANALYTICAL RESULTS SUMMARY

## AA and ICP Analyses

Client Name: BCL Associates, Inc.  
 Client Job Number: 88-524  
 Project Name: McLachlan  
 Laboratory Supervisor Approval: \_\_\_\_\_  
 Date: \_\_\_\_\_

Client (Field) Sample No.: \_\_\_\_\_  
 Date Collected: 1-26-88  
 Date Received (in lab): 1-27-88  
 Date Analyzed: \_\_\_\_\_

Sample Matrix:

Dilution Factor: \_\_\_\_\_  
 Extraction Method: EPA 3050

☐ Water (micrograms per liter)Lab Sample No.: 00081☒ Soil (micrograms per kilogram)☐ Other (specify) \_\_\_\_\_

Elements	Threshold Level STLC	Threshold Level TTLC	Method	TTLC Detection Limit	#34 38-00081- 004	#37 38-00081- 005	#43 38-00081- 007
Antimony, Sb	1.5	500	6010	0.6	ND	ND	ND
Arsenic, As	5.0	500	7060	0.3	2.5	3.0	7.1
Barium, B	100	10,000	6010	2	5.3	102	83
Beryllium, Be	0.75	75	6010	0.1	1.2	0.47	0.40
Cadmium, Cd	1.0	100	6010	0.1	ND	0.31	0.87
Chromium, Cr	51.0	2,500	6010	0.2	29	27	79
Cobalt, Co	80	8,000	6010	1	15	7.2	6.5
Copper, Cu	25	2,500	6010	0.4	50	12	12
Lead, Pb	5.0	1,000	7421	0.2	33	9.1	42
Mercury, Hg	0.2	20	7471	0.09	ND	ND	ND
Molybdenum, Mo	350	3,500	6010	0.2	2.1	2.7	2.5
Nickel, Ni	20	2,000	6010	0.8	220	17	15
Selenium, Se	1.0	100	7740	1.6	ND	ND	ND
Silver, Ag	5	500	6010	0.2	17	17	13
Thallium, Tl	7.0	700	6010	0.6	ND	ND	ND
Vanadium, V	24	2,400	6010	1	55	69	52
Zinc, Zn	250	5,000	6010	0.1	160	60	160

ND - none detected

TR - trace, below detection limit

1A  
VOLATILE ORG ICS ANALYSIS DATA SHEET

JOB SAMPLE NO.

41

Lab Name: BCL ASSOCIATES

Job No.: 88-524

Matrix: (soil/water) SOIL

Lab Sample ID: 00081-006

Sample wt/vol: 5.11 g

Lab File ID: >2AAK5

Date Received: 01/27/88

Date Analyzed: 2/05/88

Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg Q

74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	5.	U
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	1.	T
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	37.	
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (total)	5.	U

T = TRACE AMOUNT, BELOW DETECTION LIMIT

U = NOT DETECTED AT SPECIFIED DETECTION LIMIT

B = FOUND IN BLANK

MIC000101

MWNA-WZI 183028

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

JOB SAMPLE NO.

43

Lab Name: BCL ASSOCIATES

Job No.: 88-524

Matrix: (soil/water) SOIL

Lab Sample ID: 00081-007

Sample wt/vol: 5.92 g

Lab File ID: >2AAK6

Date Received: 01/27/88

Date Analyzed: 2/05/88

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	ug/Kg
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	280.	BE
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	2.	T
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	2.	T
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	3.	T
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	31.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	1.	T
100-42-5	Styrene	5.	U
133-02-7	Xylene (total)	5.	U

T = TRACE AMOUNT, BELOW DETECTION LIMIT

U = NOT DETECTED AT SPECIFIED DETECTION LIMIT

B = FOUND IN BLANK

MIC000102

MWNA-WZI 183029



1A  
VOLATILE ORG. ICS ANALYSIS DATA SHEET

JOB SAMPLE NO.

57

Lab Name: BCL ASSOCIATES

Job No.: 88-524

Matrix: (soil/water) SOIL

Lab Sample ID: 00081-010

Sample wt/vol: 5.38 g

Lab File ID: >2AAK7

Date Received: 01/27/88

Date Analyzed: 2/05/88

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	ug/Kg
			Q
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	86.	B
67-64-1	Acetone	10.	U
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
67-66-3	Chloroform	5.	U
107-02-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	10.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	13.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	2.	T
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	10.	U
591-78-6	2-Hexanone	10.	U
127-18-4	Tetrachloroethene	27.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
133-02-7	Xylene (total)	5.	U

T = TRACE AMOUNT, BELOW DETECTION LIMIT

U = NOT DETECTED AT SPECIFIED DETECTION LIMIT

B = FOUND IN BLANK

MIC000103

MWNA-WZI 183030



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5702 Bolsa Avenue, Huntington Beach, CA 92649 / (714) 892-2565  
(213) 437-4148



LABORATORY REPORT

Report to: BCL Associates, Inc.

5702 Bolsa Avenue

Huntington Beach, CA

Client Number: 88-524

Laboratory Number: 00307

Report Date: 07/06/88

Received Date: 06/28/88

Purchase Order No.: \_\_\_\_\_

Attention: James J. Severns

Sample Description: Twelve soil samples in 250 ml glass jars

Testing Methods: STLC Arsenic, Barium, Beryllium, Copper, Lead, Nickel,  
Silver, Vanadium/ICP + AA; CAC WET Title 22/EPA 7060,  
6010 and 7421

Results for the metals analyses are on the following summary sheets.

Beth Riley  
Environmental Chemist

3.48Fi.R261

Jesus Mallari  
Technical Director

MIC000104

MWNA-WZI 183031

ANALYTICAL RESULTS SUMMARY  
CAM Title 22 Metals  
AA and ICP Analyses

Client Name: BCL Associates, Inc.  
Client Job Number: 88-524  
Project Name: McLachlan

Lab Receiving No.: 00307  
Date Collected: 06/28/88  
Date Received (in lab): 06/28/88

Sample Matrix:

Extraction (soils only): STLC

- ☐ Water (milligrams per liter)  
☐ Soil (milligrams per kilogram)  
☒ Other (specify) CAC WET Extract

Elements	Date Analyzed		Threshold	Threshold	Method	STLC	TILC	BCL #1	BCL #4	BCL #7	BCL #10	BCL #16	BCL #22
	STLC	TILC	Level	Level		Detection	Detection	38-00307	38-00307	38-00307	38-00307	38-00307	38-00307
			STLC	TILC		Limit	Limit	001	002	003	004	005	006
			(mg/L)	(mg/Kg)		(mg/L)	(mg/Kg)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Antimony, Sb	07/05/88		1.5	500	6010	0.03					0.28	0.15	
Arsenic, As	07/05/88		5	500	7060	0.02							
Barium, Ba	07/05/88		100	10000	6010	0.02							
Beryllium, Be	07/05/88		0.75	75	6010								
Cadmium, Cd	07/05/88		1	100	6010								
Chromium, Cr	07/05/88		51	2500	6010								
Cobalt, Co	07/05/88		80	8000	6010	0.01				0.69		3.3	
Copper, Cu	07/05/88		25	2500	6010	0.2				TR	2.0	1.1	
Lead, Pb	07/05/88		5	1000	6010								
Mercury, Hg	07/05/88		0.2	20	7471								
Molybdenum, Mo	07/05/88		250	3500	6010				8.8	2.4		7.0	
Nickel, Ni	07/05/88		20	2000	6010	0.08							
Selenium, Se	07/05/88		1	100	7740					0.4	0.3	ND	ND
Silver, Ag	07/01/88		5	500	6010	0.02		ND	ND				
Thallium, Tl	07/05/88		7	700	6010			ND	ND	ND	ND	ND	ND
Vanadium, V	07/05/88		24	2400	6010	0.04							
Zinc, Zn	07/05/88		250	5000	6010								

ND = none detected

TR = trace, below detection limit

3.4832.ARS-524

MIC000105

MWNA-WZI 183032

## ANALYTICAL RESULTS SUMMARY

CAM Title 22 Metals

AA and ICP Analyses

Client Name: BCL Associates, Inc.Client Job Number: 88-524Project Name: McLachlanLab Receiving No.: 00307Date Collected: 06/28/88Date Received (in lab): 06/28/88

Sample Matrix:

Extraction (soils only): STLC☐ Water (milligrams per liter)☐ Soil (milligrams per kilogram)☒ Other (specify) CAC WET Extract

Elements	Date Analyzed	Threshold		Method	STLC Detection Limit (mg/L)	TTLC Detection Limit (mg/Kg)	BCL #25 38-00307 007 (mg/L)	BCL #28 38-00307 008 (mg/L)	BCL #31 38-00307 009 (mg/L)	BCL #34 38-00307 010 (mg/L)	BCL #37 38-00307 011 (mg/L)	BCL #43 38-00307 012 (mg/L)
		Level	Level									
		STLC (mg/L)	TTLC (mg/Kg)									
Antimony, Sb	07/05/88	1.5	500	6010								
Arsenic, As	07/05/88	5	500	7060	0.03							0.16
Barium, Ba	07/05/88	100	10000	6010	0.02		5.3	5.2			5.3	
Beryllium, Be	07/05/88	0.75	75	6010	0.02				0.05			
Cadmium, Cd	07/05/88	1	100	6010								
Chromium, Cr	07/05/88	51	2500	6010								
Cobalt, Co	07/05/88	80	8000	6010								
Copper, Cu	07/05/88	25	2500	6010	0.01				2.5			
Lead, Pb	07/05/88	5	1000	6010	0.2		TR	TR	TR	1.1	TR	1.7
Mercury, Hg	07/05/88	0.2	20	7471								
Molybdenum, Mo	07/05/88	250	3500	6010			0.51			12		
Nickel, Ni	07/05/88	20	2000	6010	0.08							
Selenium, Se	07/05/88	1	100	7740								
Silver, Ag	07/01/88	5	500	6010	0.2		0.2	ND	ND	ND	ND	ND
Thallium, Tl	07/05/88	7	700	6010								
Vanadium, V	07/05/88	24	2400	6010	0.04		ND	ND	ND	ND	ND	ND
Winc, Zn	07/05/88	250	5000	6010								

ND = none detected

R = trace, below detection limit

1.48G2.ARS-524.1

MIC000106

MWNA-WZI 183033

APPENDIX D

California Site Mitigation Decision Tree Manual: RSCL'S

MIC000107

MWNA-WZI 183034

## VIII: California, Soil

### VIII-1

REFERENCE: Recommended Soil Cleanup Levels (RSCLs), Toxic Substances Control Division, California Department of Health Services.

AGENCY: California Department of Health Services.

APPLICATION: Acceptable limit of contaminant in soil.

ENFORCEABILITY: Recommended levels, not regulatory.

SCOPE: Contaminated sites; recommended levels are site specific for organic and inorganic chemicals. Approximately 50 sites were cleaned up between July 1, 1982 and June 30, 1984.

RATIONALE: RSCLs have been established on a site specific basis, with consideration for such factors as chemicals present, extent of contamination, hydrogeological factors, meteorology, and other factors. RSCLs have been based on: (1) drinking water criteria, such as Sanitary Engineering Branch action levels, adjusted for soil attenuation or exposure factors; (2) proposed regulatory criteria for the identification of hazardous waste (California Assessment Manual (CAM) TLCs); or (3) background concentrations for particular contaminants.

# VIII-2

REFERENCE: RSCLs, Epidemiological Studies Section, California Department of Health Services.

AGENCY: California Department of Health Services.

APPLICATION: Acceptable limit of contaminant in soil.

ENFORCEABILITY: Recommended level, not regulatory.

SCOPE: Contaminated sites; recommended levels are site specific for organic and inorganic chemicals.

RATIONALE: Derivation of RSCLs have been based on methodology used to develop TTLCs for hazardous waste identification criteria.

$$RSCL = DWS \times 100 \times 10$$

Where RSCL = recommended soil cleanup level;  
DWS = drinking water standard;  
100 = attenuation of contaminant by soil;  
10 = dilution of contaminant by groundwater.

A lifetime risk of  $10^{-6}$  is used for carcinogens.

Additivity is assumed to predict the health effects of mixtures of contaminants. In the absence of available data, the following equation is used for mixtures:

$$\frac{C_1}{RSCL_1} + \frac{C_2}{RSCL_2} + \dots + \frac{C_n}{RSCL_n} = 1$$

where  $C_1, C_2, \dots, C_n$  = concentration of each specific contaminant 1, 2, ..., n in soils.

$RSCL_1, RSCL_2, \dots, RSCL_n$  = recommended soil cleanup level for contaminants 1, 2, ..., n.

The derivation of RSCLs is dependent upon the data available on each compound at the contaminated site.

Sample #19

Methylene Chloride

using:

$$\begin{aligned}\text{Concentration} &= 70 \\ \text{DWS} &= 40\end{aligned}$$

$$\text{RSCL} = \text{DWS} \cdot 100 \cdot 10$$

$$\frac{C_1}{\text{RSCL}_1} + \frac{C_2}{\text{RSCL}_2} + \dots + \frac{C_n}{\text{RSCL}_n} = 1$$

$$\text{RSCL}_1 = 40 \cdot 100 \cdot 10 = 40,000$$

$$\frac{C_1}{\text{RSCL}_1} = \frac{70}{40,000} = \underline{\underline{0.00175}}$$

Tetrachloroethene

$$\begin{aligned}\text{Concentration} &= 7 \\ \text{DWS} &= 4\end{aligned}$$

$$\text{RSCL}_2 = 4 \cdot 100 \cdot 10 = 4000$$

$$\frac{C_2}{\text{RSCL}_2} = \frac{7}{4000} = \underline{\underline{0.00175}}$$

1,1,1-Trichloroethane

$$\begin{aligned}\text{Concentration} &= 0.9 \\ \text{DWS} &= 200\end{aligned}$$

$$\text{RSCL}_3 = 200 \cdot 100 \cdot 10 = 200,000$$

$$\frac{C_3}{\text{RSCL}_3} = \frac{0.9}{200,000} = \underline{\underline{0.0000045}}$$



1,2 Dichloroethane

$$\begin{aligned}\text{Concentration} &= 0.5 \\ \text{DWS} &= 1.0\end{aligned}$$

$$RSCL_4 = 1 \cdot 100 \cdot 10 = 1000$$

$$\frac{C_4}{RSCL_4} = \frac{0.5}{1000} = \underline{\underline{0.0005}}$$

Carbon Tetrachloride

$$\begin{aligned}\text{concentration} &= 0.4 \\ \text{DWS} &= 5.0\end{aligned}$$

$$RSCL_5 = 5 \cdot 100 \cdot 10 = 5000$$

$$\frac{C_5}{RSCL_5} = \frac{0.4}{5000} = \underline{\underline{0.00008}}$$

Bromodichloromethane

$$\begin{aligned}\text{concentration} &= 0.4 \\ \text{DWS} &= 100\end{aligned}$$

$$RSCL_6 = 100 \cdot 100 \cdot 10 = 100000$$

$$\frac{C_6}{RSCL_6} = \frac{0.4}{100000} = \underline{\underline{0.000004}}$$

MIC000111

MWNA-WZI 183038

Benzene

$$\begin{array}{l} \text{Concentration} = 2 \\ \text{DWS} = 0.7 \end{array}$$

$$RSL_7 = 0.7 \cdot 100 \cdot 10 = 700$$

$$\frac{C_7}{RSL_7} = \frac{2}{700} = \underline{\underline{0.00286}}$$

=====

$$0.00175 + 0.00175 + 0.0000045 + 0.0005 + 0.00008 + 0.000004 + 0.00286$$

$$= \boxed{0.0069485} < 1 \quad \text{Additive Concentration for sample number 19}$$

Sample # 43

Methylene Chloride

$$\begin{aligned}\text{Concentration} &= 280 \\ \text{DWS} &= 40\end{aligned}$$

$$\text{RSCL}_1 = 40,000$$

$$\frac{C_1}{\text{RSCL}_1} = \frac{280}{40,000} = \underline{\underline{0.007}}$$

Tetrachloroethene

$$\begin{aligned}\text{Concentration} &= 31 \\ \text{DWS} &= 4\end{aligned}$$

$$\text{RSCL}_2 = 4000$$

$$\frac{C_2}{\text{RSCL}_2} = \frac{31}{4000} = \underline{\underline{0.00775}}$$

$$\underline{\text{Additive Concentration}} = 0.007 + 0.00775 = 0.01475$$

$$0.01475 < 1$$

MIC000113

MWNA-WZI 183040

Sample # 57

Methylene Chloride

$$\begin{array}{l} \text{Concentration} = 86 \\ \text{DWS} = 40 \end{array}$$

$$\text{RSCL}_1 = 40,000$$

$$\frac{C_1}{\text{RSCL}_1} = \frac{86}{40,000} = \underline{\underline{0.00215}}$$

Tetrachloroethene

$$\begin{array}{l} \text{Concentration} = 27 \\ \text{DWS} = 4 \end{array}$$

$$\text{RSCL}_2 = 4000$$

$$\frac{C_2}{\text{RSCL}_2} = \frac{27}{4000} = \underline{\underline{0.00675}}$$

1,1,1 - Trichloroethane

$$\begin{array}{l} \text{Concentration} = 5 \\ \text{DWS} = 200 \end{array}$$

$$\text{RSCL}_3 = 200,000$$

$$\frac{C_3}{\text{RSCL}_3} = \frac{5}{200,000} = \underline{\underline{0.000025}}$$

$$\text{Additive Concentration} \quad 0.00215 + 0.00675 + 0.000025 = 0.008925$$

$$\underline{\underline{0.008925 < 1}}$$

MIC000114

MWNA-WZI 183041

## ELEMENTS

Boring B-1 B-2 B-3 B-4 B-5 B-7 B-8 B-9 B-10 B-11 B-12 B-14

Compound	STLC	ITLC	Oral LD <sub>50</sub>	Dermal LD <sub>50</sub>	Sample Peak Con.	1	4	7	10	16	22	25	28	31	34	37	43
Antimony	15	500	NL	NL		ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6
Arsenic	5.0	500	NL	NL		2.7	1.9	4.6	6.3	8.2	2.9	4.0	2.7	4.7	2.5	3.0	ND
Barium	100	10000	NL	NL		64	93	53	56	88	70	110	104	92	53	102	83
Beryllium	0.75	75	NL	NL		0.25	0.42	0.32	0.35	0.39	0.35	0.47	0.48	0.43	1.2	0.47	0.40
Cadmium	1.0	100	225	NL		0.47	0.56	ND 0.1	ND 0.1	0.21	ND 0.1	0.57	0.17	0.19	ND 0.1	0.31	0.87
Chromium, total	560	2300	NL	NL		14	21	45	16	22	20	36	27	24	29	27	79
Chromium, hexavalent	5	500	NL	NL													
Cobalt	80	8000	1500	NL		4.3	19	12	5.4	35	5.8	7.4	22	9.2	15	7.2	0.5
Copper	25	2500	NL	NL		6.1	16	42	9.2	33	8.1	14	13	11	50	12	12
Lead	5.0	1000	80	NL		2.6	3.2	8.1	27	28	2.5	8.7	7.6	10.7	38.3	9.0	42
Mercury	0.2	20	NL	NL		ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09
Molybdenum	350	3500	NL	NL		1.6	2.5	4.6	1.3	2.6	1.9	3.3	2.4	2.2	2.1	2.7	2.5
Nickel	20	2000	2.5	NL		12	320	150	11	120	13	22	18	15	220	17	15
Selenium	1.0	100	6700	NL		ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6
Silver	5	500	NL	NL		5.4	1.4	9.7	70	12	1.1	16	7.7	15	7.7	15	15
Thallium	7.0	700	NL	NL		ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6	ND 0.6
Vanadium	24	2400	10	NL		58	53	86	44	50	44	67	57	59	57	57	52
Zinc	250	5000	NL	NL		24	60	69	43	68	44	60	59	54	160	60	160

NL - not listed

NA - not applicable

ND - none detected

(All units shown in parts per million (ppm))

3.38.F084-3

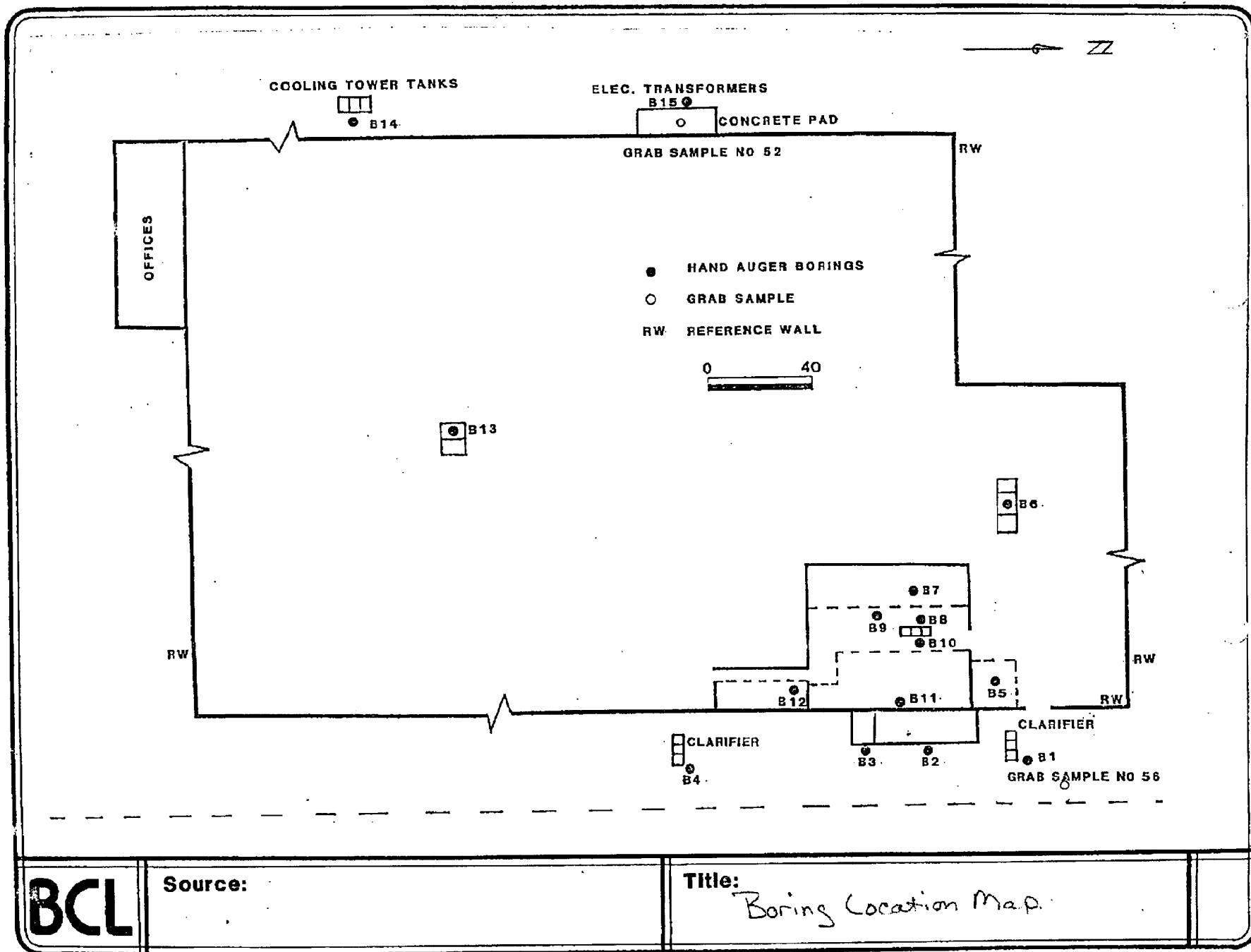
exceed STLC values

(refer to CAC Title 22, Division 4, Chapter 30,  
Article 11, Section 66700(b))

MIC000131

MWNA-WZI 183042

MIC000132



**BCL**

# Letter of Transmittal



TO M<sup>c</sup>Lachlan Investment Co. Date 8 March 88  
1400 Dove Street Project M<sup>c</sup>Lachlan  
Newport Beach, CA 92660 Integrated Specialties

Attn. Gene Hoggatt W.O. No. \_\_\_\_\_  
Tract No. \_\_\_\_\_  
Client No. 88-524

Gentlemen:

We are forwarding

☒ Attached☐ Under Separate Cover ☐ by Mail ☐ Express Mail ☒ by Messenger ☐ Your Pick-up

No. Copies	Description	Sheet No.
<u>1</u>	<u>Metals Analyses Tabulation</u>	
<u>1</u>	<u>Boring Location Map.</u>	

Remarks \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This Material is sent for ☐ Checking ☐ Approval ☒ Information☐ Your Files ☒ Per-Your Request ☐ Other☐ Please sign \_\_\_\_\_ Copies and return to our office.Transmitted By D. Michael Kimmey Date 8 Mar 88

Received By \_\_\_\_\_ Date \_\_\_\_\_

BCL ASSOCIATES, INC.  
5702 BOLSA AVENUE, HUNTINGTON BEACH, CA 92649

MIC000133

MWNA-WZI 183044



BCL ASSOCIATES, INC.  
Planners • Engineers • Scientists • Chemists

3702 Bolsa Avenue, Huntington Beach, CA 92649 / (714) 892-2565  
(213) 437-4148

January 13, 1988

Mr. Gene Hoggatt  
McLachlan Investment Company  
1400 Dove Street  
Newport Beach, CA 92660

RECEIVED

JAN 15 1988

McLACHLAN INVESTMENT CO.  
NEWPORT BEACH, CA

RE: BCLA Project No. 88-524

Dear Mr. Hoggatt:

In accordance with your January 12, 1988 telephone conversation we have begun work on the Integrated Specialties, Inc. site. As we discussed, our work will consist of the following:

Industrial Wastewater Clarifiers

Previous information suggested that there are five industrial wastewater clarifiers on-site. BCLA will drill one corehole through the concrete near each of the five clarifiers. A hand auger will then be used to collect soil samples from the cored locations at 0, 12, and 24 inches below the bottom of the concrete pad. Soil samples are to be placed in two 40 ml glass VOA vials and one 8 ounce glass jar. The jars will be labeled, sealed, stored in an insulated chest with dry ice, and delivered to the laboratory.

Bermed Concrete Pads Inside of the East Wall and Bermed Concrete Pad for Storage Tanks Outside of the East Wall

BCLA will use the techniques discussed above to collect soil samples from three core holes drilled through the inside pad and three core holes drilled through the outside pad.

1,1,1-Trichloroethane Tanks

Mr. Don Farmer of Integrated Specialties, Inc. indicated to BCLA that the building had two 1,1,1-Trichloroethane tanks. One tank was located at the north end and one near the center of the building. BCLA will use the same techniques as discussed in the clarifier program to collect soil samples from a core hole drilled below each of the two tanks.

Cooling Water Sump

The techniques described in the section on clarifiers is to be used to collect samples from one core hole drilled through the cooling water sump.

MIC000134

MWNA-WZI 183045



Electrical Transformer Pad

BCLA was informed that the on-site electrical transformers have been removed from the property. There is a potential that the transformers contained PCB fluids. Such fluid could have leaked causing soil contamination. To investigate this possibility, BCLA will pour tap water on the pad at the locations where the transformers were mounted. Sufficient water will be applied such that the water runs off the pad. The points at which the water contacts soil will be assumed to be the most likely locations for PCB fluids to have contacted soil. A surface soil sample will be collected from the two points which are indicated by the water test to be the most likely contamination areas. The soil from each of these two locations will be collected in separate 8 ounce glass jars. The jars will be processed as discussed in the clarifier section.

A portion of each of the samples are to be scanned in the field for pore space gas with a portable flame ionization detector (FID) and photo ionization detector (PID) using the headspace method. The samples are also to be analyzed in the field with a portable infrared analyzer (IR) using a modified EPA method 418.1.

The soil samples are to be analyzed by a chemical laboratory based on the following schedule:

Number of Samples to be Analyzed from Each Area

	<u>Clarifiers</u>	<u>Bermed Pads</u>	<u>1,1,1 Tanks</u>	<u>Water Pad</u>	<u>Transformer Pad</u>	<u>Total Analyses</u>
State 17 TTLC Metals	5	6	0	1	0	12
8240 VOA's	2	0	2	0	0	4
8080 PCB's	0	0	0	0	2	2
pH	5	6	0	0	0	11
Total Saw Cuts	5	6	2	1	0	

For the State 17 TTLC Metals and pH, the samples collected from below the concrete will be analyzed. For the 8240 runs, the two samples from the 1,1,1-Trichloroethane tank areas exhibiting the highest headspace results will be analyzed. Both of the samples collected from the transformer pad are to be analyzed for PCB.

As we discussed McLachlan will be responsible for re-concreting the 14 saw cuts.

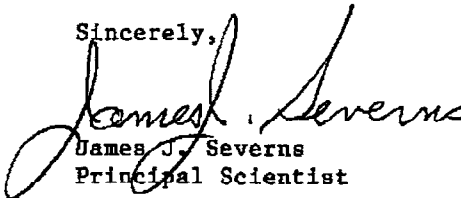


Mr. Gene Hoggatt  
January 13, 1988  
Page Three

Following receipt of the laboratory results, BCLA will prepare a report which summarizes the field investigations, discusses the analytical results and provides an opinion regarding the potential for on-site soil contamination.

To formalize our relationship please sign both copies of the enclosed contract and return one to us along with the specified retainer.

Sincerely,

  
James J. Severns  
Principal Scientist

JJS:cl1  
4.12F.HOGGATT2

Enclosure



MIC000136

MWNA-WZI 183047

BCL

BCL ASSOCIATES, INC.  
Planners • Engineers • Scientists • Chemists

AGREEMENT FOR SERVICES

5702 Bolsa Avenue, Huntington Beach, CA 92649

BCL ASSOCIATES, INC.  
IS HEREBY AUTHORIZED TO PERFORM  
ENGINEERING AND/OR PLANNING SERVICES  
ON THE PROPERTY LOCATED AT:

CLIENT NO: 88-524  
DATE: 1-12-88  
TAKEN BY: JJS

STREET ADDRESS: Integrated Specialties, Inc.  
LEGAL DESCRIPTION: 1551 East Orangethorpe  
Fullerton, CA

SERVICES REQUESTED: Subsurface investigation in accordance with BCLA's  
January 12, 1988 letter.

CHARGES SHALL BE BASED ON:

(A) IN THE EVENT OF ANY INCREASE OF COSTS DUE TO THE GRANTING OF WAGE INCREASES AND/OR OTHER EMPLOYEE BENEFITS DUE TO THE TERMS OF ANY NEW LABOR AGREEMENT DURING THE LIFETIME OF THIS AGREEMENT, SUCH INCREASE SHALL BE ADJUSTED TO ALL FEES. CHANGES IN OFFICE DESIGN OR IN FIELD STAKING AT OWNER'S REQUEST, AFTER AGREEMENT IS MADE, WILL BE SUBJECT TO CHARGES IN ADDITION TO CONTRACT PRICE. PREVAILING HOURLY RATES FOR FIELD AND OFFICE TIME ARE AS SHOWN ON THE ATTACHED FEE SCHEDULE.

OVERTIME, IF AUTHORIZED BY OWNER SHALL BE BILLED AT TIME AND ONE-HALF.

(B) COST OF FEES TO MUNICIPAL AGENCIES WILL BE PAID BY CLIENT AND ALL NECESSARY EXPENSES WILL BE AN ADDITIONAL CHARGE, UNLESS OTHERWISE NOTED BELOW.

(C) ESTIMATE: \$15,400

(D) OTHER:

(E) RETAINER: \$ 4,000

F) THE ACCOMPANYING PAGES OF THIS CONTRACT SHALL BE CONSIDERED A PART THEREOF.

(G) CALIFORNIA PRELIMINARY NOTICE - In accordance with Section 3097 of the California Civil Code, this form and your signature below constitute acknowledgement of receipt of Preliminary Notice of Intent to furnish labor, services, equipment or materials as described above. The listed amount is an estimated of the total price for the labor, equipment or materials to be furnished. If bills are not paid in full for the labor, equipment or materials to be furnished, the property may be subject to mechanic's liens.

SIGNED BY: James J. Severns SIGNED BY: \_\_\_\_\_  
James J. Severns, Principal Scientist

FOR: BCL ASSOCIATES, INC. FOR: \_\_\_\_\_  
DATE: January 13, 1988 DATE: \_\_\_\_\_

Fees for services rendered become due and payable upon completion of work or as work progresses, and will be invoiced monthly; terms are net 30 days. Overdue accounts will incur a finance charge of 1 1/2 percent per month.

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